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PROVINCIAL CANCER HOSPITALS BOARD REPORT

1974

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PROVINCIAL CANCER HOSPITALS BOARD REPORT 1974

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INTRODUCTION

In this, the second Annual Report published by the Provincial Cancer Hospitals Board, we are pleased to note the continued development of the patient service, research and educational programs sponsored by the Board. The range of services available, the quality of the research, and the number of trainees in disciplines required by our cancer patients have all increased in 1974.

During the past year, the Board transferred its responsibility for payment of cancer claims to the Alberta Health Care Insurance Commission. We wish to thank the Commission for its co-operation in completion of the transfer. We are also grateful to the medical profession for its continued assistance and trust.

A close relationship between the Board and the Medical Faculties in Edmonton and Calgary is essential. During 1974 the ties between the medical schools which exists is provided by the proposed Division of Oncology in Edmonton, a joint project of the University of Alberta and the Provincial Cancer Hospitals Board. The Board is confident that a comparable arrangement will be made with the University of Calgary.

The Board remains concerned with the slow progress in completion of arrangements for a new Cancer Centre in Calgary. At the beginning of 1974 we had expectations that plans for building a new clinic would be completed during the year. However, it is likely that initiation of construction may now be delayed. Because the cancer program in southern Alberta should be centered in a new clinic, we hope that major progress in this area can be demonstrated in our next report.

T.D. BAKER, M. Ed., LL.D., F.C.C.T.,
Chairman,
Provincial Cancer Hospitals Board.

MEMBERS AND OFFICERS

OF THE PROVINCIAL CANCER HOSPITALS BOARD

EXECUTIVE OF THE BOARD

T. D. BAKER, M.Ed., LL.D., F.C.C.T.
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—Box 207, Evansburg, Alberta

J. W. MACGREGOR, M.D.
—Vice Chairman
—4911 - 114B Street,
Edmonton, Alberta

R. E. POTTINGER
—3619 Beaver Road. N. W.,
Calgary, Alberta

BOARD MEMBERS

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—801, 11920 - 100 Avenue,
Edmonton, Alberta

MRS. M. DOLGOY
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Edmonton, Alberta

MRS. B. JASMAN
—Three Hills, Alberta

MRS. R.D. McKENZIE
—Box 268, Vegreville, Alberta

R. J. R. NOYES
—5110 - 47 Street,
Lloydminster, Alberta

W. PRATT
—R. R. 2, Calgary, Alberta

S. D. SOUTHERN
—919 - 49 Avenue, S. W.,
Calgary, Alberta

PROVINCIAL ADMINISTRATION

R. NEIL MacDONALD, M.D.
—Executive Director

H. B. MASON
—Provincial Business Administrator

M. GRACE, Ph.D.
—Director, Research & Development Dept.

J. T. DALLOW
—Director of Personnel

N. McLEOD
—Director of Hospital Services

T. McCOURTNEY
—Director of Plant Maintenance

MISS M. DUNCAN
—Chief Accountant

DR. W.W. CROSS CANCER INSTITUTE ADMINISTRATION

R. NEIL MacDONALD, M.D.
—Director

G. J. TOURIGNY, D.H.A.
—Administrator

J. COOK
—Director of Pharmacy

MISS S. LIVINGSTONE
—Director of Nursing

CALGARY CANCER CLINIC ADMINISTRATION

J. R. FRANCIS, M.D.
—Medical Director

MRS. A. MITCHELL
—Administrative Officer

MRS. A. CHERRY
—Nursing Supervisor, Outpatient Dept.

LETHBRIDGE CANCER CLINIC ADMINISTRATION

D. A. RICE, M.D.
—Medical Director

MRS. E. DERBYSHIRE
—Chief Clerk

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EXECUTIVE DIRECTOR'S REPORT

In the previous Annual Report, the philosophy and objectives of the Provincial Cancer Hospitals Board were outlined. This year, the Executive Director's report will endeavor to supplement the departmental reports contained elsewhere in this publication and to provide an overview of the current plans and future interests of our organization. Although primarily concerned with the operation of a hospital and outpatient clinics, the Board recognizes its responsibility for provision of a comprehensive cancer program for our citizens; our progress in formulating the various aspects of a complete cancer control program is outlined below.

PREVENTION

Cancer remains the second major cause of death in Alberta and is the leading cause of death, by illness, in children and young adult women. The principal forms of malignancy afflicting the Alberta community have not changed; lung, colon and breast cancer remain the most prevalent. Each of these types of cancer is believed to be influenced by environmental factors and thus should be preventable by elimination of the causative agents.

Unfortunately the situation is not that simple. For many years cigarette smoking has been established to be the principal cause of lung cancer yet neither legislative bodies nor the public respond to this clearly defined and highly significant risk. If the community did choose to abolish cigarette smoking, 350 lives lost a year in Alberta due to cancer of the lung would presumably be saved. Because of the experience with lung cancer, where we note that the community is not willing to remove a known clear and present health hazard, it is naive to assume that the discovery of the responsible agents causing other types of cancer will automatically result in their elimination. Nevertheless, as prevention of disease is the most sensible approach, the Provincial Cancer Hospitals Board intends to intensify its involvement in this field.

In the past the Canadian Cancer Society has served as the major body concerned with public education, while a number of other health agencies have monitored the presence of harmful substances in the environment. Although the Board will continue to co-operate with these agencies, it believes that a unit with direct responsibility for cancer prevention should be created. This unit will liaise with the Cancer Society and government agencies and will plan to take specific action in certain areas. It will wish to participate with appropriate government agencies in the study and regulation of potential carcinogens while developing the capacity to mount intensive educational programs as other causative factors of cancer are discovered.

EARLY DETECTION

The earlier tumor is detected, the better the chance for cure. Therefore, it is reasonable to introduce tests and examinations with the objective of diagnosing cancer at the earliest possible moment. Unfortunately, at present there is only one proven successful procedure available for screening patients with cancer - the Papanicolaou smear for gynecologic cancer. New diagnostic procedures currently under investigation in our organization include immune tests for the presence of cancer (for example the carcinoembryonic antigen test), together with mammography and thermography for breast cancer. The expense of whole population screening using these procedures are extremely high while their efficacy is in question; future approaches to the early diagnosis of cancer will certainly focus on limited screening of people thought to be at particular risk, but a great deal of research in finding these people and in developing adequate testing procedures is still required.

The Board believes that it should create a new department, the Department of Cancer Prevention and Detection. Aside from programs in the prevention of cancer outlined above, projects that may be contemplated by the new department include:

a) Breast self-examination - Most Canadian women do not regularly examine their breasts and the majority do not know how to carry out this simple but effective technique. In co-operation with the Cancer Society and the Alberta Medical Association a program should be organized to provide appropriate instruction for women.
b) Extension of current studies on the effectiveness of mammography and thermography for breast cancer screening. This program may be linked to a national study and should be limited to high risk groups.

Other screening techniques which may be developed to warrant clinical evaluation within the next few years include:

i) testing high risk populations with enzyme studies (for example the aryl hydrocarbon hydroxylase test for lung cancer),
ii) endocrine investigations for women at risk for cancer of the breast.
iii) sputum cytology tests for potential victims of lung cancer,
iv) new immunologic tests with sufficient sensitivity and specificity for detecting the presence of cancer.

HOSPITAL AND CLINIC SERVICES

Calgary - The most critical problem faced by the Provincial Cancer Hospitals Board is the establishment of the new Calgary Cancer Centre. The current clinic is cramped and obsolete while its location, staffing and outfitting do not allow it to serve as a cancer centre adequate for the needs of the citizens in the southern part of the province.

Following several years of discussions with government and concerned health agencies in Calgary, the Board has been authorized to proceed with completion of a functional plan for a new centre.

Cross Cancer Institute - Current activities and predicted future developments of the Institute are outlined in the departmental reports for the Cross Institute. These will not be repeated in this report save to emphasize the need for development or expansion of certain major programs which include:

a) upgrading of the radiation therapy equipment and establishment of a radiobiology program.
b) Expansion of the Day Care Centre - At the present time the inpatient facilities of the Institute are becoming fully engaged. Although eight beds can be added without new construction, increased utilization of the Day Care Centre could relieve bed demands while allowing our patients to remain at home rather than in hospital.
c) Planning for a hostel unit - Analysis of our inpatient hospital population continues to demonstrate that approximately ¼ of our patients could be housed in a hostel, if available.
d) Enhancement of the medical oncology program - Required are additional personnel concerned with chemotherapy and immunotherapy together with the radiotherapeutic and surgical colleagues.

Lethbridge and Peripheral Clinics - A new Peripheral Clinic was inaugurated in Red Deer in 1974. A team from the Cross Institute including a radiation therapist and a medical oncologist visit Red Deer on a monthly basis. While there, in addition to consultative work, they participate in a monthly Oncology Round. Red Deer community physicians participate in the review clinic which provides an excellent opportunity for interaction between the physicians from the Cross Institute and their Red Deer colleagues. The Red Deer clinic concept is successful and will serve as a model for other Peripheral Clinics.

Because of the complexity of modern radiation therapy, a decision was made to concentrate these services in Calgary and Edmonton. However, progress made in the area of chemotherapy and immunotherapy dictate that internists skilled in these disciplines should be available to the citizens in the smaller urban centers in Alberta. It is not our intention to develop full-time positions in these communities, but we do intend to support the interests of community physicians in these disciplines and integrate their work with the activities of the principal centres in Calgary and Edmonton.

PHARMACEUTICAL SERVICES

All Alberta cancer patients who are registered with the Provincial Cancer Hospitals Board are eligible to receive any cancer agents without charge. Until recent years, the number of useful drugs was limited and few practitioners were trained in the optimal use of cancer chemotherapy. However, many new potent compounds are now available and physicians in the province are increasingly aware of the benefits of chemotherapy. These developments, compounded by the realization that most cancer chemotherapeutic agents work better in combination and in higher doses than were previously employed, have resulted in a substantial increase in the cost of cancer chemotherapy programs of the Provincial Cancer Hospitals Board.

A number of recent studies have supported the wisdom of using cancer chemotherapy when the amount of cancer present in a patient is minimal; for example, immediately after the patient has received surgery or radiation therapy to the primary tumor mass. Therefore, it is possible that the next few years will see a major expansion in the use of chemotherapeutic agents. Estimation of the budget requirements for the chemotherapy program during the past two years has been difficult and our estimates may continue to lag behind the actual demand for some time. We will be required to plan for increased chemotherapy costs while ensuring that competent professional staff trained to supervise these expensive and highly toxic compounds is available to serve our community.

EDUCATION

We are pleased with the progress made in expanding the professional educational role of the Board in northern Alberta. Over the past few years a close working relationship has developed with the Faculty of Medicine of the University of Alberta and the Cross Cancer Institute serves as a centre for undergraduate medical training, residency programs in medical oncology/radiation therapy, and also provides residency rotations for students in diagnostic radiology and gynecology.

Thus the framework for harmonious development of a co-ordinated oncology program has been established in Edmonton. The Board is grateful for the continued excellent support, past assistance, and willingness to participate in joint planning which has been demonstrated by the administration of the Faculty of Medicine of the University of Alberta.

Progress along similar lines in Calgary has not been satisfactory. The service requirements of patients are adequately met by a good staff in the Calgary Cancer Clinic working in inadequate quarters, but joint Faculty/Cancer Clinic educational and research programs have developed only to a minimal degree. It is our belief that deficiencies in the Calgary program can only be resolved with the creation of a new Calgary Cancer Centre located on the Calgary Health Sciences site. In anticipation of this development, a proposed Affiliation Agreement has been forwarded to the Faculty of Medicine and preliminary discussions on the formation of a jointly sponsored group in oncology have commenced.

The creation and operation of a Division of Oncology within the Faculties of Medicine of both major centres will enhance the close relationship which must exist between those responsible for education and research in oncology (Faculties of Medicine) and those responsible for a comprehensive program for all citizens in the province (Provincial Cancer Hospitals Board). These two components of a cancer program cannot be clearly separated from each other without jeopardizing the total program. The creation of Divisions of Oncology enables the Provincial Cancer Hospitals Board to provide good services while ensuring that educational resources exist which will provide a continued input of excellent people, well trained in oncology, in the Alberta health professions.

RESEARCH

In the past five years, the Provincial Cancer Hospitals Board has developed a strong research potential in the following areas:

a) An immunology research laboratory has been established in the Cross Cancer Institute.
b) The Department of Nuclear Medicine (Cross Cancer Institute) has published a number of significant studies on the use of imaging techniques for the diagnosis of cancer and certain benign conditions.
c) The Department of Radiation Therapy (Cross Cancer Institute) has carried out investigations on the use of radiosensitizing agents which have been presented at several recent cancer conferences.
d) A series of clinical studies on new chemotherapeutic agents, immunotherapy and new approaches to the combination of radiotherapy, surgery, and drug therapy are underway within the clinics. Members of staff of the Provincial Cancer Hospitals Board participate in national and international cooperative study groups. In addition liaison exists between the Institute and McEachern Laboratory, through which a number of joint studies have been completed or are underway.
e) The Department of Physics (Calgary) has pioneered the use of advanced calculators in the planning of radiation therapy dosage schedules, while the Department of Physics (Edmonton) has contributed to studies on the operative capabilities of linear accelerators.
f) A revision of the Alberta Cancer Program has been recognized as an innovative experiment in health care by the federal government and, as such, has qualified for a National Health Grant.

In addition to provincial government support, investigators have qualified for support from a number of outside granting agencies including the Medical Research Council of Canada, the National Cancer Institute, the Department of National Health and Welfare and the Canadian Cancer Society. Private contributions to the Research Trust Fund of the Board have increased during the past three years.

Nevertheless, the research activities of the Board Clinics does not approach the level realized by sister organizations in Manitoba and Ontario. As a strong research arm is an integral part of the cancer treatment program, the Board will continue to stimulate the expansion of cancer research in Alberta, both within the units directly operated by the Board and within our Faculties of Medicine.

The Provincial Cancer Hospitals Board has endeavored to develop its program in liaison with government, the medical profession and other health agencies. We are grateful for their co-operation and assistance.

R. NEIL MacDONALD, M.D., F.R.C.P.(C),
Executive Director,
Provincial Cancer Hospitals Board.

DR. W. W. CROSS CANCER INSTITUTE

Alberta

DR. W.W. CROSS CANCER INSTITUTE
MEDICAL AND SCIENTIFIC STAFF

DEPARTMENT OF DIAGNOSTIC RADIOLOGY

Director - GUTTER, DR. Z.

Active Staff

CASTOR, DR. W.
FERRI, DR. H.A.
SIWAK, DR. T.H.

DEPARTMENT OF GYNECOLOGY

Director - BROWN, DR. L.B.

Active Staff

BECK, DR. R.P.
BELL, DR. D.M.
BOULTON, DR. J.J.
BOYD, DR. J.A.
BUCHANAN, DR. D.M.
BUGIS, DR. J.
CLARKE, DR. T.R.
CROOKS, DR. H.J.
DAY, DR. J.C.
DAY, DR. R.A.
DEVINE, DR. S.W.
DUNLOP, DR. D.L.
FERGUSON, DR. W.F.
FINZER, DR. K.H.W.
FUNG, DR. CHIN-POK
GAILIUNAS, DR. V.
HORNER, DR. R.H.
HUSEL, DR. D.H.
KREDENTSER, DR. B.
MARKO, DR. JOHN
MCBRIDE, DR. R.L.
MORCOS, DR. F.H.
MOYER, DR. D.J.
OSTOLOSKY, DR. R.
REID, DR. D.W.J.
RINGROSE, DR. C.A.
RITCHIE, DR. D.C.
ROSS, DR. H.G.T.
SCHULZE, DR. W.B.
SMITH, DR. D.M.
TRAFF, DR. T.N.
WEIR, DR. N.W.
WESTGATE, DR. A.
WINTER, DR. R.W.

Consulting Staff

GANS, DR. L.J.
LEEDER, DR. J.
VANT, DR. J.R.

DEPARTMENT OF MEDICINE

Director - MCPHERSON, DR. T.A.

Active Staff

Chest Disease

BUCKLE, DR. F.G.
SPROULE, DR. B.J.

General Practice

BLUNDEN, DR. A.G.
BOWMAN, DR. G.R.J.
CHEPEHA, DR. N.
CREURER, DR. M.
GRAHAM, DR. H.D.
HUTTON, DR. W.I.K.
LEGERSKI, DR. R.J.C.
LETTS, DR. T.B.
MILLER, DR. M.J.
MUSCH, DR. L.J.A.
O'GRADY, DR. T.T.
OMELCHUK, DR. A.

QUANDT, DR. P.L.
SCHWEDA, DR. N.E.
SCHWARZ, DR. H.A.J.

SNIHUROWYCH, DR. M.
SMULSKI, DR. J.
VIK, DR. K.E.
WOODMAN, DR. J.C.
YAKE, DR. W.W.
ZETTER, DR. G.R.
SZEKELY, DR. E.

Internal Medicine

BAND, DR. P.R.
BELCH, DR. A.R.
BLACK, DR. W.R.
CAIRNS, DR. A.
CROCKFORD, DR. P.M.
DANIAL, DR. B.H.
EDWARDS, DR. A.M.
ELLIOTT, DR. J.F.
GILBERT, DR. J.A.L.
HARLEY, DR. C.H.
KHALIQ, DR. A.
MACDONALD, DR. R. NEIL
MANT, DR. M.J.
SALTER, DR. E.A.
TUSZ, DR. D.J.
VENNER, DR. A.
WEINSTEIN, DR. W.M.
WEISZ, DR. S.

Neurology

BLAIN, DR. J.G.
JACOBS, DR. H.

Pediatrics

AKABUTU, DR. J.
SELBY, DR. G.W.

Courtesy Staff

AMATO, DR. V.
BRAND, DR. H.M.
COGLON, DR. R.B.
CONRADI, DR. G.
DAWRANT, DR. A.G.
LIANG, DR. F.N.
LUCAS, DR. J.
RUSSELL, DR. J.
SAMUELL, DR. C.N.
SARTOR, DR. V.E.
TURNER, DR. E.J.
ULAN, DR. O.A.

Residents and Fellows

COATES, DR. J.
HUANG, DR. C.W.
KATAKKAR, DR. S.
YOSHIDA, DR. S.

Consulting Staff

BROWN, DR. JACK
BROWN, DR. G.D.
GAUK, DR. E.W.
GOLDSAND, DR. G.
GREENHILL, DR. S.
HOPKYNS, DR. J.C.
IRVING, DR. D.W.
IWANEC, DR. WASYL
KING, DR. G.
KORNELL, DR. S.
MCLEAN, DR. D.R.
MITCHELL, DR. M.
RENTIERS, DR. P.L.
SILVERBERG, DR. D.S.
STEFANYK, DR. H.
THOMSON, DR. R.K.
WENSEL, DR. R.H.
WHITING, DR. R.H.

Research Associates

BROX, DR. L.W.
HENDERSON, DR. J.F.
KOCH, DR. M.
LEPAGE, DR. G.A.
PATERSON, DR. A.R.P.
SHAW, DR. A.

DEPARTMENT OF MEDICAL PHYSICS

Director - USISKIN, DR. S.R.

Research Associate

SCRIMGER, DR. J.W.

DEPARTMENT OF NUCLEAR MEDICINE

Director - LENTLE, DR. B.

Active Staff

JACKSON, DR. F.

Research Associate

NOUJAIM, DR. A.
SHYSH, DR. A.
SCOTT, MR. J.R.

DEPARTMENT OF PATHOLOGY

Director - MASSE, DR. S.

DEPARTMENT OF RADIOTHERAPY

Director - PEARSON, DR. J.G.

Active Staff

BURNS, DR. P.E.
GLAZEBROOK, DR. G.
MCGOWAN, DR. D.G.
MCMILLAN, DR. K.T.
MUSA, DR. B.
SECTER, DR. B.
URTASUN, DR. R.C.

Residents and Fellows

HIGGINS, DR. E.
LAU, DR. E.
NETT, DR. A.
PEDERSEN, DR. J.

Research Associates

FRYER, C.G.

DEPARTMENT OF RESEARCH & DEVELOPMENT

Director - GRACE, DR. M.

DEPARTMENT OF SURGERY

Director - MCCARTEN, DR. A.B.

Active Staff

Anaesthesiology

HOAR, DR. Z.
MCINTYRE, DR. J.W.R.
PALETZ, DR. S.G.

General Surgery

ANDERSON, DR. W.
ALLIN, DR. E.S.
ANSELMO, DR. J.E.
BESNEY, DR. M.
BONDAR, DR. G.F.
BOWES, DR. K.
COX, DR. S.F.
DAVIS, DR. R.G.
FRASER, DR. R.E.
FRIEDMAN, DR. M.H.W.
GRAHAM, DR. J.A.
HACKETT, DR. R.M.
HALLGREN, DR. R.A.
HYDE, DR. H.A.
JESPERSEN, DR. R.
JOHNSTON, DR. R.J.
JORDAN, DR. R.W.
KLING, DR. S.
LASKIN, DR. M.M.
LINKS, DR. H.
MACBETH, DR. R.A.
MARGOLUS, DR. B.D.
MILLETTE, DR. L.J.
MYERS, DR. H.A.
PISESKY, DR. W.
RICHARD, DR. H.L.
RIVERS, DR. L.
SALMON, DR. P.A.
SCHMIDT, DR. E.K.
SIEGENBERG, DR. J.
STRUTZ, DR. W.A.
THEMAN, DR. A.E.
THURSTON, DR. O.G.
TURNER, DR. F.W.
TWOREK, DR. E.J.
WIANCKO, DR. K.
WILLIAMS, DR. H.T.G.
WILLOX, DR. G.L.
YAKIMETS, DR. W.W.

Neurosurgery

ALLEN, DR. P.B.R.
MONCKTON, DR. G.
O'CALLAGHAN, DR. W.
WEIR, DR. B.K.A.

Ophthalmology

ROOTMAN, DR. J.
SHUTT, DR. H.K.

Orthopedic Surgery

DAVIS, DR. L.A.
MOREAU, DR. J.P.
RIGAL, DR. W.M.
SINGH, DR. S.

Otolaryngology

LUPIN, DR. A.J.
MALLEN, DR. R.
VYAS, DR. U.K.

Plastic Surgery

ALTON, DR. J.D.M.
HAYASHI, DR. T.
LOBAY, DR. G.W.
SHIMIZU, DR. H.J.
VOLOSHIN, DR. P.J.

Thoracic & Cardiovascular Surgery

CALLAGHAN, DR. J.
MELTZER, DR. H.
NAKAI, DR. S.S.
ROSS, DR. C.A.

Urology

BOAKE, DR. R.C.
BOCHINSKI, DR. B.
CONROY, DR. F.D.
DUSHINSKI, DR. L.M.
EID, DR. T.C.
FRANCIS, DR. R.R.
LAKEY, DR. W.H.
MCPHEE, DR. M.S.
METCALFE, DR. J.O.
ROBINSON, DR. S.M.
SHANDRO, DR. W.A.

Oral Surgery

STRELIOFF, DR. M.G.
WARREN, DR. R.E.

Courtesy Staff

COUVES, DR. C.M.
DIDUCH, DR. L.T.
KOSTIUK, DR. J.A.
STERNS, DR. L.P.
STOCKBURGER, DR. H.

Consulting Staff

ALLIN, DR. G.E.
AYERS, DR. T.N.
BACKSTROM, DR. A.R.
BOILEAU, DR. G.R.
BURY, DR. R.J.
CAMERON, DR. G.W.
COLTER, DR. D.
COULTER, DR. H.B.
CUTHBERTSON, DR. A.
FISK, DR. R.L.
FLETCHER, DR. C.M.
GORT, DR. J.
GIBSON, DR. W.J.
HOPKINS, DR. I.A.
KEOHANE, DR. J.T.
LEITCH, DR. G.T.J.
MCKENZIE, DR. A.
MACKENZIE, DR. W.C.
MACLEAN, DR. W.A.
MARSHALL, DR. F.C.
MICHALYSHYN, DR. B.
MORTON, DR. G.K.
PAWLUK, DR. W.
PRAKASH, DR. A.
RAMAGE, DR. H.C.
ROSTRUP, DR. O.
SCOTT, DR. G.W.
WEISLER, DR. M.N.
WILSON, DR. T.S.

Note: Full-time members are listed with Departmental Reports.

DIRECTOR'S REPORT

1974 was an active year for the Institute in which we attempted to consolidate the projects introduced in 1972 and 1973 while continuing to introduce new programs.

Consultative Services

Despite the change in cancer regulations our new patient load remains the same as in 1973. The change in cancer regulations introduced on August 1, 1974 removed completely the need for authorizations. Nevertheless, the second half of 1974, normally a slower season than the first half, containing as it does the months of July, August and December, was in fact busier than the corresponding period in 1973. During the last two quarters of 1974 new patient referrals were actually increased by 10% over the corresponding period of 1973.

The activities of the inpatient service increased significantly in 1974. The total number of inpatients admitted was increased by 12% and the average patient stay was reduced from 13.5 to 11.5 days, the latter, a gratifying statistic for a cancer unit. Particularly pleasing, after a slow start, was the increased utilization of the Day Care Centre. Day Care Centre visits increased from 136 to 463 in 1974. In the first month of 1975 the Day Care Centre was utilized by 80 patients thus reflecting continued growth of this unit.

The workload in both the Departments of Radiology and Radiotherapy remained stable in 1974 while the Department of Nuclear Medicine continued to grow with an approximate 10% increase in activity over 1973.

When the plan to do away with authorizations was broached many people believed that a change in legislation would severly reduce the Cross Institute's function as a consultative unit. I am personally very happy with the continued trust and support shown by our colleagues in northern Alberta who continue to seek our assistance in the management of their patients despite the abolishment of compulsive legislation.

Therapeutic Programs

The principal therapeutic interests of the Institute remains radiation therapy and chemotherapy but a new therapeutic entity, immunotherapy, has come into increasing prominence. The use of immunological stimulants to enhance the traditional forms of therapy has been spearheaded by Dr. McPherson in patients with malignant melanoma. BCG is the principal agent under study but another immunological stimulant, C. Parvum, has been introduced into studies conducted by Dr. Khaliq, Dr. Glazebrook, and Dr. Band.

In addition to immunotherapy, other new therapeutic approaches introduced within the Institute during 1974 include the inauguration of a pain clinic headed by Dr. McIntyre and Dr. Ayers. Dr. Ayers has been exploring the use of percutaneous cordotomy and electrical stimulation to contol the pain of cancer patients while Dr. McIntyre has been studying other techniques including acupuncture on selected patients.

The addition of a planning computer and a simulator to the Department of Radiotherapy has increased the ability of the radiation therapists and physicists to plan rapidly and with accuracy therapeutic programs for patients receiving radiation therapy.

In conjunction with the Cancer Society, Ostomy and Laryngectomy Clubs have been organized to assist patients in the rehabilitation phase of their illness; these clubs join the rehabilitation service currently available for patients with breast cancer.

Dr. Akabutu, Head of the Division of Paediatrics, has been successful in obtaining a government grant of $100,000 to complete plans for a Paediatric Oncology Program for northern Alberta. Public support for this uniquely fruitful area of cancer care and research is very much appreciated.

Special Diagnostic Facilities

The Nuclear Medicine capacity of the Institute was increased following the commissioning of a new gamma camera. Also during 1974, Dr. Lentle and Dr. Jackson added seven new procedures to their diagnostic armamentarium.

Dr. Gutter in Radiology received authority to proceed with the installation of a thermograph unit which will enhance the breast cancer diagnostic service.

Dr. McPherson's Clinical Immunology Laboratory has received support from the provincial government and under the direction of Dr. Maria Koch, CEA testing procedures will be expanded during the forthcoming year. In addition, this laboratory is developing new testing programs which hopefully will be introduced in the latter part of 1975.

Educational Programs

During 1974 the Institute continued to play a part in the undergraduate program of the Faculty of Medicine through the regular rotation of clinical clerks through the Department of Medicine and participation in the elective program. In addition, many Institute members were responsible for lectures and seminars in the Phase 1, 11 and 111 sections of the medical curriculum. At the postgraduate level Dr. Pearson developed an active Radiation Therapy Residency Program with four

residents in training in 1974. The Department of Medicine has a Clinical Fellowship Program with positions competently filled during 1974 by Dr. Marian Drozd and Dr. S. Katakkar.

The capacity for postgraduate training within the Institute is still underutilized however; ideally family practice residents should be working in our outpatient clinics learning cancer diagnostic procedures and surgical and gynecologic residents should be in the clinics and on the wards of the Institute learning about advanced therapeutic modalities. During 1975 progress towards these goals is anticipated and it is hoped that this waste of valuable educational experience will be corrected. Additional research fellowships and a residency program in medical onocology are planned by the Department of Medicine which will also offer a rotating residency for general medical residents. The 1974 Continuing Education Program was highlighted by a very successful spring symposium on non-Hodgkins lymphoma directed by Dr. Khaliq.

An active attempt within the Faculty of Medicine to see a co-ordinated program in oncology involving all hospitals in the city has developed. It has been suggested that the Cross Institute should serve as a nidus for this oncology program as the Institute is specifically constructed to house a cancer program and, enjoying as it does the active participation of physicians from all Edmonton and many northern Alberta hospitals, is particularly suited to serve as a centre for a Faculty program of this nature. In January 1975 the Faculty Council of the University of Alberta will consider a proposal for formation of a Faculty Division of Oncology.

Research

A broad range of research projects are now underway within the Institute. The increased research activity is reflected by a 15% increase in scientific presentations by our staff during 1974 over 1973 and by a 40% increase in published papers.

Perhaps the proudest moment for the Institute during 1974 came in August with the inauguration of the Laskin Fellowship. A grateful patient presented $100,000 to the Board in order to establish a permanently endowed fellowship honoring Dr. Mervin Laskin. Aside from the enormous stimulus provided to the research program, it was particularly pleasing to see a community surgeon and a good friend of the Institute honored in this fashion.

There are a number of events that do not fit into the classifications that have been used, yet are worthy of mention. During 1974 the hospital received accreditation. The attaining of the accreditation certificate is memorable as it reflects a coming of age of the Institute, a completion of much of the organizational and committee work which was started when the hospital was first opened. In addition, 1974 saw the publication of the first Annual Report, a useful addition to the campaign to improve communications with colleagues. The Institute was fortunate in maintaining a stable full-time staff in 1974. One resignation was received; Dr. Serge Masse of the Department of Pathology returned to Quebec. However, six members were added to the full-time medical and scientific staff - Dr. Frank Jackson, Dr. Ken McMillan, Mr. John Scott, Dr. Andrew Shaw and Dr. Helen Ferri. The administrative structure of the Institute was also changed. During 1974 Mr. Gil Tourigny, formerly the Executive Assistant to the Executive Director, assumed the position as Administrator of the Dr. W. W. Cross Institute.

R. N. MacDONALD
Director,
Dr. W. W. Cross Cancer Institute

DR. W. W. CROSS CANCER INSTITUTE

DEPARTMENTAL REPORTS

ACTIVITY STATISTICS DR. W.W. CROSS CANCER INSTITUTE

	1972	1973	1974
New Outpatients examined (including patients with benign disease)	2,387	2,228	2,164
Patients examined in peripheral clinics	816	740	814
Review Patients	16,829	15,773	16,175
Inpatient Statistics			
Total inpatients treated	1,637	1,599	1,777
Average occupancy %	73.28	77.52	73.79
Average patient stay	12 days	13.7 days	11.52 days
Total patients admitted to Day Care Unit, from March 1973	Not Open	138	483
Operating room procedures	416	519	624
Radiation Therapy			
Total patients treated with radiotherapy	1,435	1,408	1,493
Total treatment sessions	16,619	16,017	16,845
Total radium insertions	153	134	100
Total patients receiving isotope therapy	31	19	18
Clinical Laboratory			
Total procedures	91,347	168,422	202,960
Diagnostic Radiology			
Total examinations	27,579	26,477	27,244
Outside films	23,175	18,883	16,317
Patients examined in photographic unit	175	164	125
Nuclear Medicine			
Total procedures	5,656	6,627	7,235

DIAGNOSTIC RADIOLOGY DEPARTMENT

Z. GUTTER, M.D., F.R.C.P.(C),
— Director
— Assistant Clinical Professor, Faculty of Medicine, University of Alberta

W. CASTOR, M.D., F.R.C.P.(C),
— Senior Radiologist
— Assistant Clinical Professor, Faculty of Medicine, University of Alberta

H. FERRI, M.D., F.R.C.P.(C),
— Senior Radiologist

During the year 1974, the total number of examinations increased slightly over the previous year. Special techniques such as mammography, lymphangiography and tomography have continued to be very much in demand.

The Diagnostic Radiology Department has continued to work in close association with the Department of Nuclear Medicine in the area of nuclear and radiological correlation in extent of neoplastic disease and development of metastases. The Division of Nuclear Medicine became a fully independent department in September 1974.

The Department has continued the Radiology Resident Training Program in co-ordination with the University of Alberta. During 1974, five residents took advantage of the rotational residential training at the Dr. W. W. Cross Cancer Institute.

GYNECOLOGY DEPARTMENT

L. B. BROWN, M.D., F.R.C.S.(C),
— Director
— Clinical Professor, Faculty of Medicine, University of Alberta

During 1974 the Department continued to function in close co-operation with the Department of Radiotherapy. In addition to three regular follow-up clinics weekly, new patient consultative sessions were held with joint participation by a gynecologist and radiotherapist. The total number of new patients with gynecologic malignancies seen in the Cross Institute numbered 120, while the total number of follow-up visits in the Outpatient Department during 1974 amounted to 1,933. Gynecologic procedures performed in the Operating Room during this period numbered 137 of which 78 were insertions of radium.

In addition to these activities, an active gynecologic chemotherapy service was maintained with the co-operation of the Department of Gynecology and the Department of Medicine. Drs. Beck, Band and Brown participated in a continuing co-operative study on carcinoma of the ovary under the sponsorship of the Eastern Co-operative Oncology Group. Thirty-three patients with advanced ovarian cancer came to the clinic in 1974 and a total of 324 clinic visits were recorded. To date the clinic has treated 75 women with advanced ovarian cancer. In 1974 chemotherapy clinic activity was expanded to include patients with advanced recurrent carcinoma of the cervix and at the conclusion of the year ten patients with this disorder have been evaluated and are receiving treatment.

In the field of undergraduate education, the Department continues to enjoy the presence of phase 111 medical students in gynecology outpatient clinics to our mutual benefit. Postgraduate teaching continues on a restricted basis; a full resident service is not yet possible but four gynecology residents have participated in the new patient joint consultative clinics in the gynecologic /chemotherapy clinics during the year. It is hoped to expand the resident activity during the forthcoming year.

In addition to the use of chemotherapy in gynecologic malignancy, the research interests of the Department center on consideration of recurrent invasive and in-situ lesions of the cervix after prior therapy. It is hoped to establish an "abnormal cytology clinic" in the Institute in the near future, utilizing colposcopy as a further refinement in the diagnosis of all degrees of intra-epithelial neoplasia.

MEDICAL PHYSICS DEPARTMENT

S.R. USISKIN, Ph.D
— Director
— Honorary Associate Professor, Faculty of Medicine, University of Alberta.

J.W. SCRIMGER, Ph.D
— Senior Medical Physicist
— Honorary Assistant Professor, Faculty of Medicine, University of Alberta

Early in the year the Department acquired an Artronic PC-12 - a minicomputer dedicated to radiotherapy planning. After careful consideration of the ability of the device to reflect measured situations accurately, it has now been incorporated into the day-to-day activities of the Treatment Planning Section of the Physics Department. Close to 850 total procedures were performed in this Section. A greater degree of optimization of plans than was previously possible is currently being achieved with this computer.

The Machine Shop continues in its role of repairing and maintaining existing equipment as well as in the design and fabrication of new esoteric equipment.

Routine calibration and monitoring of the radiotherapy units as well as assessment and control of real and potential hazards was provided.

Interaction with the Nuclear Medicine and Diagnostic Radiology Departments continues to result in co-operative investigations into problems of mutual interest.

The educational role of the Department increased during 1974. Physics lectures for residents training in diagnostic radiology was added to the lecture series currently offered to residents in radiotherapy and radiotherapy technicians. The Department also participates in the physics program of the University of Alberta, delivering lectures to the undergraduate students and acting as supervisor for one M.Sc. student. Another student is being considered as a further candidate.

DEPARTMENT OF MEDICINE

T.A. McPHERSON, M.D., F.R.A.C.P., Ph.D.
- —Director
- —Associate Professor, Faculty of Medicine, University of Alberta

A. BELCH, B.Sc., M.D., F.R.C.P.(C),
- —Physician
- —Assistant Professor, Faculty of Medicine, University of Alberta

A. KHALIQ, M.B., F.R.C.P.(C),
- —Physician
- —Honorary Clinical Lecturer, Faculty of Medicine, University of Alberta

R. Neil MacDONALD, M.D., F.R.C.P.(C),
- —Physician
- —Professor, Faculty of Medicine, University of Alberta.

M. KOCH, M.D.
- —Research Associate
- —Research Associate, Faculty of Medicine, University of Alberta

A. SHAW, Ph.D.
- —Research Associate
- —Research Associate, Faculty of Medicine, University of Alberta

RESIDENTS AND FELLOWS

J. COATES, Ph.D.,
- —M.R.C. Post-Doctoral Fellow

C.W. HUANG, Ph.D.,
- —N.C.I. Post-Doctoral Fellow

S. KATAKKAR, M.D.,
- —Medical Oncology Fellow

S. YOSHIDA, M.D., F.R.C.P.(C),
- —Resident

Activities within the Department of Medicine during 1974 included all aspects of clinical care of inpatients and outpatients in the medicine service. This care was provided on a system of "division of responsibility" by departmental staff members responsible for various aspects of treatment relating to oncology. Department members interact with colleagues in other disciplines through participation in interdisciplinary clinics, and newly inaugurated interhospital study groups. An objective of the Department is to establish excellent liaison with the McEachern Cancer Research Unit, and the University of Alberta, and all Edmonton hospitals. The co-operation of physicians and scientists in these units is very much appreciated. The Department of Medicine also continued to be involved in clinical trials in association with other national and international oncology groups such as the National Cancer Institute of Canada, the National Cancer Institute of the United States, and the M.D. Anderson Tumor Hospital.

Utilization of day care facilities for chemotherapy, transfusion, and immunotherapy was instituted and this reduced the pressure on inpatient beds. The category breakdown of medical staff within the Department of Medicine, including Internal Medicine, General Practice, Neurology, Paediatrics, and Research during 1974 was: Active - 46; Courtesy - 12; Consulting - 18; Research Associates - 6.

Throughout the academic year approximately two to three Phase III students from the University of Alberta, Department of Medicine, rotated in the Institute for teaching in general medicine and oncology for a one-month period. Phase I and II and elective medical students also received insight into cancer treatment by attending clinics and sessions within and without the Institute from members of the Department. Medical post-graduate, doctoral, post-doctoral, nursing, paramedical, and lay education was provided by members of the Department. In particular, Dr. Khaliq organized a highly successful symposium entitled "Diseases of the Lymphocyte - Part II".

The following teaching or academic rounds on the medical service were conducted during 1974: Medical Service Rounds (once weekly); Combined Hematology/Oncology Rounds (once weekly); X-Ray Rounds - in association with other departments (once weekly); and Grand Oncology Rounds (every second week - participation and periodic presentations).

Oncology Research Seminars commenced early in 1974 to provide a forum for a once monthly exchange of ideas by individuals concerned with cancer related research. Research at the Cross Institute involved a wide range of activities engaging the energies of people from almost every department in the hospital. The major research interests of the Department involved studies of tumour immunology and cancer chemotherapy (in association with the McEachern Laboratory).

Grants for research received by the Department of Medicine included:

"Experimental Allergic Encephalomyelitis (EAE) and Multiple Sclerosis (MS)"

Investigator: Dr. T.A. McPherson
Amount: $34,000 (April 1, 1974 - March 31, 1975)
Source: Medical Research Council of Canada

"(1) A New Diagnostic Test for MS and (2) Serum Inhibitors of Normal Lymphocyte Encephalitogenic Basic Protein Binding in Patients with Multiple Sclerosis"

Investigator: Dr. T.A. McPherson
Amount: $22,000 (April 1, 1974 - March 31, 1975)
Source: Multiple Sclerosis Society of Canada

"(1) Solid-Phase Radioimmunoassay for CEA using 125 1-anti-CEA as Radiotracer
(2) Carcinoembryonic Antigen (CEA) in Patients with Malignant and Non-Malignant Disease"
(3) Malignant-State Basic Protein (MSBP)"

Investigator: Dr. T.A. McPherson
Amount: $36,250 (April 1, 1974 - March 31, 1975)
Source: National Cancer Institute of Canada

The Research Laboratory performs both basic, and applied investigation in clinical areas. Most of the work has an immunological basis, and is concerned with the diagnosis, and treatment of maligant disease and multiple sclerosis. The staff comprises M.D.'s, Ph.D.'s, M.Sc.'s and B.Sc.'s with experience in chemistry, pharmacology, and the biological sciences.

1. Immunological Profile (Dr. A. Shaw, Ms. J. Trylinski, Mr. T. Horan)

The immune status of a patient can be assessed on the basis of in vitro tests of immunological function. The laboratory offers a service to doctors who wish to determine the immunological status of their patients. At present, this consists of measuring the responsiveness of peripheral blood lymphocytes to stimulation by PHA and PPD, and evaluating the proportion of T cells by the E-rosetting technique. Only patients on protocol can be accepted for these tests, and the laboratory research nurse is consulted first to arrange for blood collection. The prognostic value of the tests is uncertain at present, but the accumulation of serial determinations on patients undergoing therapy will contribute to our knowledge in this area.

2. Indicators of Tumour Burden (Dr. M. Koch, Dr. J. Coates, Ms. A. DeBoer)

The development of lung and gastrointestinal tumours is frequently paralleled by a rise in the level of carcinoembryonic antigen (CEA) in the patients' plasma. CEA determinations are performed on plasma, urine, and other extracellular fluids from all categories of patients as requested by physicians from anywhere in Alberta. The purpose of the study is to assess the value of these determinations for the prognosis, and therapeutic follow-up of patients suffering from a wide variety of malignancies. A more specific and sensitive radioimmunoassay is being developed based on solid phase immobilization of anti-CEA antibody, and a similar assay is being attempted for the measurement of tumour basic protein in patients' plasma.

3. Indicators of Cell Mediated Immunity (Dr. A. Shaw, Ms. P. Coates, Ms. W. Melnychuk)

Evidence of immune involvement in host defences against tumours has been sought since the advent of Burnet's immune surveillance theory. We have attempted to detect sensitization against cultured tumour cell lines using the Hellstrom microcytotoxicity technique. Specific activity above that exhibited by lymphocytes from healthy controls has not been demonstrated, and the lymphocyte adherence inhibition assay (LAI) is being investigated as a possible alternative test. Tumour antigens are extracted from biopsy, and autopsy material of breast cancer, and malignant melanoma, and tested against peripheral blood leukocytes from patients with these diseases.

Another assay for cellular immunity is the MEM test which measures responsiveness of peripheral blood lymphocytes to tumour basic protein, and antigen expressed in the majority of neoplastic cells. The test is employed in the laboratory to answer basic questions about the nature of antigenic recognition, and as an assay for the presence of tumour basic protein in the fractionation of tumour extracts. The test is difficult to perform, and not used at present to screen patients for malignancy.

4. Indicators of Humoral Immunity to Tumour Antigens (Dr. A. Shaw, Ms. W. Melnychuk, Ms. P. Coates)

Antibody dependent cell mediated cytotoxicity of tumour cells in vitro is used to test sera from patients with malignant melanoma for the presence of humoral immunity to tumour specific antigens. The sensitivity of the test enables the detection of antibody levels too low to be assayed complement fixation techniques. The present study involves following patients in a horizontal and vertical fashion to correlate the presence of antibody with prognosis.

5. Tests of Monocytic and Granulocyte Function (Dr. D. English, Mr. T. Horan)

To supplement the tests of lymphocytic responsiveness outlined above, monocyte and granulocyte function tests are being developed. Monocyte function is being assessed by radiochemotaxis, and phagocytic function of both monocytes and granulocytes quantitated by chemoluminescence.

6. Indicators of Tumour Location (Dr. A. Paterson, Dr. D. English)

A transplantable dog tumour is being used to assess the efficacy of gallium 67 citrate scanning in tumour localization. The tumour metastasis arises from the site of implantation, and the model should provide

information as to the minimal size of metastatic foci detectable. Other scanning agents will be tested, and techniques assessed for suitabliity of application in man.

7. Autologous Bone Marrow Transplantation (Dr. D. English, Dr. A. Paterson)

Cryopreserved cells from autologous bone marrow are being used to rescue dogs from lethal regimens of chemotherapeutic agents. Should the technique prove successful it is hoped that it will enable a more aggressive approach to cancer treatment.

8. Multiple Sclerosis (MS) (Dr. T.A. McPherson, Mr. D. Ewing)

A test for assessing the clinical status of patients suffering from multiple sclerosis has been developed. The test measures the activity of a factor in the serum which inhibits the binding of myelin basic protein to sheep lymphocytes. The factor has maximal inhibitory activity in MS patients undergoing remission. Attempts are being made to characterize the factor and to understand its role in vitro. The only animal model suitable for the investigation of demyelinating disease is that of experimental allergic encephalomyelitis (EAE). This is being employed in mice to determine the respective roles of T and B cells in the induction of the disease. The animals work is being carried out in conjunction with the Department of Immunology at the University of Alberta.

DIVISION OF PAEDIATRICS

J. AKABUTU, M.D.,

- Director

- Assistant Professor, Faculty of Medicine
  University of Alberta

During 1974 the Division of Paediatrics submitted a major program proposal to the provincial government for regionalized care of children with oncologic illness. In the interim period, the Division continues to operate a major total care outpatient facility at the Dr. W.W. Cross Cancer Institute. There are two outpatient clinics in operation at this time. The number of children registered at the Institute was 86.

The Institute is used for training of paediatric residents in the treatment of malignant diseases of childhood. Research interests continue at a slow pace. With the development of a firm clinical program, it should now be possible to enlarge the research interests of the Division. Research protocols in use are (1) total therapy of acute lymphoblastic leukemia, (2) further combination chemotherapy for failures of intensive combination chemotherapy, (3) combination chemotherapy for acute myelogenous leukemia of children, (4) chemotherapy for Ewing's sarcoma in children and adults.

NUCLEAR MEDICINE DEPARTMENT

B. LENTLE, M.D., D.M.R.D., F.R.C.P. (C),
- Director
- Assitant Professor, Faculty of Medicine, University of Alberta

F. JACKSON, M.B., Ch.B., D.P.H., C.R.C.P. (C), Pub. Health/Diag. Rad.
- Sr. Radiologist
- Clinical Instructor, Faculty of Medicine, University of Alberta

J.R. SCOTT, M.Sc.
- Radiopharmacist

1974 has seen the coming of age of the Department which achieved that status in September, graduating from a division of the Department of Radiology.

The Department has grown in terms of its space and staff complement. Mrs. Nappu Kehl joined the Department in January and has been seconded to complete her R.T. (N.M.). Graduating from B.C.I.T. Miss Jacqueline Pidgeon and Mr. Ted Anderson joined the Department in June. Mr. Keith Murland, graduating from Calgary, joined the staff in August. The professional staff was increased during 1974 with the arrival of Dr. Frank Jackson, appointed to both the Departments of Radiology and Nuclear Medicine.

In February a Picker Dynacamera 2C was installed in newly added space and with the subsequent arrival of the omniview whole body imaging table the Department's capacity and versatility has been greatly enhanced. The workload has continued to increase.

Progress towards the establishment of the Edmonton Radio-Pharmaceutical Centre led to the appointment of its future director, Mr. John Scott, to the staff of the department and his arrival has been welcome in improving radio pharmaceutical preparation and quality control.

The following techniques have been added to the diagnostic repertoire:
Tumour scanning - 111 In bleomycin
Gastric emptying time - 113m In chloride
Gastric pertechnetate extraction - 99mTc04
Bone scanning with profile scanning in ankylosing spondylitis and Pagent's disease - 99mTc-pyrophosphate
Lymphangiography - 99mTc-antimony chloride
Salivary gland scintiscanning and data analysis - 99mTc04
T4 and T3 resin uptake.

Some examples of changing demand:

	1972	1973	1974
Liver & Spleen Scan	2,882	3,422	3,521
Brain Scan	673	377	449
Gallium Scan	0	215	443
Bone Scan	468	1,179	1,191

RADIOTHERAPY DEPARTMENT

J.G. PEARSON, M.B., Ch.B. F.R.C.S., D.M.R.T., F.R.C.R., F.R.C.P.(C),
—Director
—Professor, Faculty of Medicine, University of Alberta

P.E. BURNS, M.B., Ch.B. D.M.R.T.
—Senior Radiotherapist
—Assistant Professor, Faculty of Medicine, University of Alberta

G.A. GLAZEBROOK, M.B., B.S., M.R.C.P., D.M.R.T., F.R.C.R., F.R.C.P.(C),
—Associate Director
—Associate Professor, Faculty of Medicine, University of Alberta

D.G. McGOWAN, M.B., Ch.B., D.M.R.T., F.R.C.P.(C),
—Senior Radiotherapist
—Assistant Professor, Faculty of Medicine, University of Alberta

K.T.P. McMILLAN, M.B., Ch.B., M.R.A.C.R.
—Radiotherapist
—Lecturer, Faculty of Medicine, University of Alberta

R.C. URTASUN, M.D., F.R.C.P.(C), A.B.R.,
—Senior Radiotherapist
—Associate Professor, Faculty of Medicine, University of Alberta

RESIDENTS AND FELLOWS

J. LEYTON, M.B., B.S.	- Resident
E. LAU, M.D., B.S.	- Resident
A.E. NETT, B.Sc., M.D.	- Resident
J.E. PEDERSEN, B.Sc., M.D.	- Resident
E.M. HIGGINS, B.Sc., M.D.	- Resident
B.A. SECTER, M.D.	- Clinical Assistant and Ward Physician
M.B. MUSA, M.D., F.R.C.S.	- Clinical Assistant and Ward Physician

Patient Care

Many of the inpatients in the Dr. W.W. Cross Cancer Institute are admitted under the care of radiotherapists for assessment of the nature and extent of their diseases, for treatment by irradiation, or for the management of such later complications as require inpatient care. A similar number of patients receive radiotherapy on an outpatient basis. Both outpatient and inpatient radiotherapeutic management are equally critical and deserving of maximal quality control. No fewer outpatients than inpatients have an expectation of survival for five or more years mainly as a consequence of radiotherapy.

In addition, in the general Outpatient Department of the Cross Institute the radiotherapy staff conduct or participate in various new patients and follow-up clinics, including numerous interdisciplinary clinics conducted with surgical and medical colleagues each week.

A radiotherapy consultation service is provided for all the hospitals in Edmonton and Peripheral Clinics are conducted primarily by radiotherapists in Grande Prairie and Peace River. The new Red Deer Clinic is run in collaboration with the medical staff of the Red Deer General Hospital and the Department of Medicine of the Cross Institute.

From January to December 1974, 39,270 radiotherapy "set-ups" were carried out in the course of 16,845 separate treatment sessions for a total of 1,493 complete courses of radiotherapy. Irrespective of the time spent on initial clinical work-up or post treatment follow-up, the average patient undergoing a course of radiotherapy has required two hours work by a radiotherapist.

Education

The radiotherapy staff has contributed to all phases of the undergraduate medical teaching program but it is highly desirable that this contribution be expanded. Phase I students visit the Department in groups of twelve. In Phase II there is radiotherapy participation in topic teaching. In 1974 there have been two students in the Phase III Radiotherapy Elective Program for one month and two months respectively. Other Phase III radiology elective students attend for one and one-half days each.

The Residency Program started in 1973 has made progress. The Department now has four residents in training - all still in the early stages. In view of the continued acute shortage of radiotherapists in Canada, the training of more residents in radiotherapy is highly desirable and an expanded program is visualized for 1975.

The school for the training of radiotherapy technicians has been expanded to include anatomy, physiology, pathology, patient care, radiobiology and protection, subjects formerly taught at N.A.I.T. The first three months of the course is conducted in this Department on behalf of the whole province. Therafter, the Calgary students return home for the rest of their training and the northern Alberta students complete their twenty-eight month program here. It is from the graduates of this training school that we have recruited nearly all of the sixteen radiotherapy technicians currently working in the Radiotherapy and Physics Departments.

Radiotherapists are also actively engaged in cancer educational projects for the practicing physician,

nursing groups, and the laity where necessary by means of appropriate contributions through the media.

Research

One of our greatest needs is for the expansion of the Radiotherapy Department's Research Program. The explosion of radiobiological knowledge in recent years provides us with evidence from laboratory work which now awaits clinical trial. To make progress in this area requires the creation of a radiobiological section. The need has been formally set out as part of the position paper "Radiotherapy in Alberta - 1974" presented to government in the summer of 1974.

Equipment

1974 has seen vitally important improvements in our treatment armamentarium. The radiotherapy simulator was brought into use early in the year and the treatment planning computer during the summer. The long awaited mould room facilities are expected to become available in the course of 1975. The further equipment needs of the unit in order to bring our service up to standard and to provide for future development have been set out in the 1974 position paper.

Manpower

In 1974 the manpower problem in radiotherapy remained acute. In respect of radiotherapy staff, the Department entered 1974 at its lowest ebb for four years. Accordingly, teaching, research and service have been impaired. The present Director wrote in July 1969 "Should a condition of staff depletion arise locally, it tends to run on in a vicious circle as the residue is attracted to easier conditions in the few remaining well staffed departments. To answer the problem by the import of foreign personnel may be an unavoidable temporary expedient. The urgent long term aim would seem to be to create the conditions which will stimulate adequate local recruitment to the specialty. Meanwhile, a service must be maintained and actively developed. In the present state of development of medical services (and for the forseeable future), it is my belief that the provision of a satisfactory service in the radiotherapy/oncology field is only attainable in the long term in association with a teaching, research and development program, although other solutions may work in the very short term". Much has been achieved along these lines in the past five years, but still no more than a satisfactory foundation has been laid and much more must be achieved.

In 1974 two Alberta graduates were attracted to the Residency Training Program. More are urgently required. Also during the year we were fortunate in recruiting Dr. Ken McMillan from Glasgow via Brisbane and Oxford, who joined the staff in November 1974, and Dr. Allan Lees from Middlesex Hospital in London via Leeds, who is to join the staff in February 1975.

SURGERY DEPARTMENT

A. B. McCARTEN, M.D., F.R.C.S.
—Director
—Assistant Clinical Professor, Faculty of Medicine, University of Alberta

The Department of Surgery continues to work with internists and radiotherapists in interdisciplinary clinics dealing with malignant disease of the breast, gastro-intestinal tract, head and neck, skin including melanoma, genito-urinary tract, chest, and central nervous system. Surgical consultants serving these clinics number ninety-two.

Additions to the surgical staff of the Dr. W. W. Cross Institute were:

Dr. Lyle A. Davis - Active Staff, Orthopedic Surgery
Dr. Upendra K. Vyas - Active Staff, Otolaryngology
Dr. Zella E. Hoar - Active Staff, Anesthesiology
Dr. John W. McIntyre - Active Staff, Anesthesiology
Dr. Ronald E. Warren - Consulting Staff, Oral Surgery
Dr. Alvin R. Backstrom - Consulting staff, Otolaryngology

There were no staff resignations during 1974.

The Breast Cancer Study Group continued to participate in the King's College Hospital/Cambridge University study of radiotherapy in Stage I and Stage II breast cancer treated by total mastectomy. Enrollment of cases by northern Alberta surgeons has now reached sixty-three. Preliminary reports circulated to participants indicate the study to be producing evidence of practical value in the management of breast cancer. The Director of the study, Dr. J.G. Murray, will visit Edmonton in early 1975 to report on the final results of Phase I and to offer alternatives for Phase II of the study.

The Gastro-Intestinal Study Group has studied the value of routine follow-up of gastro-intestinal malignant disease and has produced a report. The need was found for improved preoperative and intraoperative staging more uniform pathologic reporting. Such a protocol has been developed and will shortly be introduced clinically.

A Urologic Cancer Study Group was formed, chaired by Dr. Malcolm S. McPhee. Testicular cancer is the initial focus of this interdisciplinary group and a tentative protocol has been produced which will shortly be circulated to members of the specialty.

A Bone Cancer Study Group has been formed, chaired by Dr. Lyle Davis. The large number of metastatic bone lesions with consequent treatment problems will receive the attention of this group as an initial project.

General surgeons from the Department continued to co-operate on a rotational basis in serving the Peripheral Clinics held in Grande Prairie and Peace River.

A small but importarft development in the follow-up care of skin cancer was the introduction of a program of follow-up by the referring doctor or operating surgeon with progress reporting by mail. This policy of off-site follow-up of appropriate classes of cancer not requiring the specialized facilities of the Cross unit should be of benefit to both the patient and the Institute.

CALGARY CANCER CLINIC

CALGARY CANCER CLINIC
MEDICAL AND SCIENTIFIC STAFF

Director - FRANCIS, DR. J.R.

DEPARTMENT OF DIAGNOSTIC RADIOLOGY

Director
-FLORENDINE, DR. D.G.

DEPARTMENT OF MEDICAL PHYSICS

Active Staff

FUNG, G.
O'BRIEN, P.

DEPARTMENT OF NUCLEAR MEDICINE

Active Staff

ARNOLD, DR. R.

DEPARTMENT OF RADIOTHERAPY

Director - BROWN, DR. I.S.

Active Staff

BARNES, DR. M.
ENNS, DR. A.G.
VAN DER LUBBE, DR. N.E.A.

CONSULTANT CLINICAL STAFF

ATTISHA, DR. R.
BARNES, DR. P.
BEHM, DR. A.
BUIE, DR. W.J.
CAMPBELL, DR. W.N.
CHIPPERFIELD, DR. W.G.
CHURCHILL, DR. B.M.
DALE, DR. C.
ENTA, DR. T.
FERGUSON, DR. I.A.
GILLESPIE, DR. J.D.
GRACE, DR. D.A.
GRISDALE, DR. W.R.
GROVES, DR. T.
HACKEMANN, DR. M.
HANSLIP, DR. A.R.
HARSE, DR. H.R.
JANKE, DR. E.
KETCHESON, DR. R.B.
MACGREGGOR, DR. D.J.
MCCULLOCH, DR. C.F.
MCKERCHER, DR. L.A.
MAH-POY, DR. G.L.
MALLEN, DR. P.R.
MITCHELL, DR. L.I.
MORTIS, DR. E.A.
NATION, DR. E.W.
NOAKES, DR. J.A.
POW, DR. R.E.
REMINGTON, DR. D.W.
RETZER, DR. O.
ROBB, DR. W.A.
ROE, DR. R.
RUETHER, DR. B.A.
SINGH, DR. R.R.
SPACKMAN, DR. L.F.
TROY, DR. M.T.
TRUSCOTT, DR. D.R.
WAGNER, DR. G.A
WALLACE, DR. D.S.
WILLIAMS, DR. J.A.
WILSON, DR. A.E.

Note: Full-time members are listed with Departmental Reports.

MEDICAL DIRECTOR'S REPORT

The Calgary Cancer Clinic has continued to expand activities and operations, as is noted in the statistical record of the Outpatient Department accompanying this report.

The year 1974 saw some physical changes in the clinic; accommodation was increased by joining the clinic to the Holy Cross Hospital and expanding the ground floor of the Cancer Clinic. Renovations were completed in April 1974. They have resulted in the availability of increased space for adminsitrative staff as well as for the Radiotherapy Department and its planning rooms. Ongoing discussions concerning planning for a new Calgary Cancer Centre have continued and are outlined in the Executive Director's report.

The Medical & Scientific Staff continues to grow and the clinic employs five radiotherapists at present. In addition, there are 37 part-time specialists who work in the clinic half a morning a week as consultants.

In the past year the activities of the Outpatient Department have expanded. An increase in personnel, the development of new programs, and a greater involvement in clinical research has been greeted with enthusiasm by all staff members.

Departmental reports from the Departments of Diagnostic Radiology, Medical Physics, and Radiotherapy follows.

New Developments

1. Ear, Nose and Throat Clinics: These clinics are held on a weekly basis commencing July 1974. Consulting services were provided by three otolaryngologists on a rotating schedule. Also in attendance has been Mrs. A. Vintcent, Speech Therapist from the Calgary General Hospital. Her enthusiasm has proven to be of great value to patients ensuring continuity in speech rehabilitation.

2. Enterostomal Therapy: Although this program was instituted in 1973, its impact was not completely

appreciated for several months and in 1974, under the capable directorship of Mrs. Gwen Drew, the number of patients treated has greatly increased thanks to the interest of Calgary physicians and surgeons. The increased response to the Enterostomal Therapy service has been extremely gratifying for the Cancer Clinic personnel concerned with this area of patient care. Patient rehabilitative care is of particular concern to most enterostomal therapists, and a good deal of time has been expended working with the Cancer Society and the local Ostomy Society in this area. Assistance has been given in the formation of Ostomy Societies in the cities of Lethbridge, Medicine Hat, and Edmonton. Much time has also been spent preparing for and lecturing at local nursing schools and to orderlies and nurses aides at the Alberta Vocational School.

Patients attended in 1974:

	Patients	Visits & Treatments
Colostomy	128	276
Ileostomy	31	69
Urostomy	22	71
Total	181	461

It should be noted that many hours are spent working with each patient.

3. Clinical Research: The Calgary Cancer Clinic participated in several National Cancer Institute trial programs. Other clinical trials were initiated at the Dr. W. W. Cross Cancer Institute with the patient returning to Calgary to continue treatment on an outpatient basis.

4. Patient Service Programs:
   - Postmastectomy volunteers
   - Postlaryngectomy self-help group
   - Parents' self-help group

   All groups continue to function enthusiastically with clerical assistance and meeting space provided by the local Cancer Society. Assitance is given to these groups, when requested, by the clinic nursing staff.

5. Emergency Care: Because of concern by Administration regarding facilities for emergency cardiopulmonary resuscitation in the Outpatient Department, Dr. P. Floridia, Chief of Anaesthetic Services, Holy Cross Hospital, was asked to review the facilities available. His recommendations have been introduced and a good facility with well trained personnel is now available in the event that a cardiorespiratory emergency should occur. The clinic is very appreciative of the guidance provided by Dr. Floridia.

DR. J. R. FRANCIS, M.D., F.R.C.S.(C)
Director
Calgary Cancer Clinic

DEPARTMENTAL REPORTS

OUTPATIENT DEPARTMENT SITE	1973 NEW PATIENTS	1974 NEW PATIENTS	1973 FOLLOW-UP	1974 FOLLOW-UP	1973 TOTAL	1974 TOTAL
Breast	492	453	2,728	2,793	3,220	3,246
Gastro Intestinal	147	132	950	1,031	1,097	1,163
Lymphomas and Leukemias	40	46	881	833	921	879
Gynecology	198	181	1,396	1,539	1,594	1,720
Musculo-Skeletal	16	12	130	98	146	110
Thoracic	108	90	399	440	507	530
Genito-Urinary	129	93	600	627	729	720
Head and Neck	51	61	391	471	442	532
Neuro	18	14	71	99	89	113
Skin	391	316	2,928	2,830	3,319	3,146
Pediatric	8	9	97	96	105	105
Others (incl. Thyroid)	35	26	212	183	247	209
TOTAL	1,633	1,433	10,783	11,040	12,416	12,473

ACTIVITY STATISTICS	1972	1973	1974
New patients examined (including patients with benign disease)	2,259	2,086	2,056
Patients examined in peripheral clinics	896	895	855
Review patients	14,913	15,158	14,609
Radiation Therapy			
Total patients treated with Radiotherapy	814	859	978
Total treatment sessions	13,821	15,452	17,442
Total radium insertions	88	99	116
Total patients receiving isotope therapy	10	21	23
Clinical Laboratory			
Total procedures	24,056	26,867	30,412
Diagnostic Radiology			
Total examinations	10,296	11,536	14,774
Nuclear Medicine			
Total procedures	1,314	1,465	2,113

DIAGNOSTIC RADIOLOGY DEPARTMENT

D. G. FLORENDINE, B.Sc., M.D., R.C.P.S.
—Director

The present purpose of the Diagnostic Radiological Department is to provide the necessary facilities for the immediate care of patients attending the outpatient clinic. No major elective procedures are done. Vascular, myelographic, lymphographic and other special procedures are done in the major city hospitals of Calgary. However, all general radiographic examinations are done as well as all contrast studies and mammograms.

The Department also plays a major part in aiding the Radiotherapy Department in treatment planning and assisting the Department of Nuclear Medicine in scanning procedures.

The Department is relatively small having only two major diagnostic radiological units and one portable machine. On reviewing the previous years workload, the actual volume has increased 27% over 1973.

COMPARATIVE ANNUAL REVIEW FOR YEARS 1968 to 1974

	1974	1973	1972	1971	1970	1969	1968
Examinations	14774	11536	10296	8861	7509	5602	3705
Patients Visits	8569	8087	7404	6075	5194	4300	2752
*Patients Actual	4916	4869	4211	3601	3251	N/A	N/A
Average Number of Examinations per Pt.	3.0	2.37	2.4	2.4	2.3	N/A	N/A
Films Used	32740	26983	25368	21139	18021	13563	8660
Average Number of Films per Examination	2.2	2.3	2.4	2.4	2.4	2.4	2.3
Interpretation of Outside Films	3111	2479	2285	2262	2131	2188	1646

* As noted in our 1968 and 1969 annual report, no record was kept of the individual number of different patients examined. Only the number of patients visits were recorded.

MEDICAL PHYSICS DEPARTMENT

G. FUNG, M.Sc.,
—Senior Physicist
—Assistant Professor, Faculty of Medicine, University of Calgary

P. O'BRIEN, M.Sc.,
—Physicist

NUCLEAR MEDICINE DEPARTMENT

S.F. NICHOLSON, M.D.,
—Radiologist (P/T)
—Lecturer, Faculty of Medicine, University of Calgary

R. ARNOLD, M.D., F.R.C.P.(C),
—Radiologist (P/T)
—Assistant Professor, Faculty of Medicine, University of Calgary

During 1974 the Medical Physics Department was actively engaged in dosimetry, treatment planning, nuclear medicine, and calibration and maintenance of machinery in the Radiotherapy Department.

Early in the year a new source was installed in the Theratron 780 and the removed source was cascaded to the Eldorado 8. At this time a complete overhaul was done on both machines. A hot wire cerrobend shielding device was constructed and came into routine use during the year. The addition has certainly increased the flexibility and efficiency of shieldings during radiation treatment.

A major acquisition during 1974 was the PC/12 treatment planning computer and associated software for beam handling, planning, fortram programming and dosimetry. The clinic experience with the Wang Calculator in treatment planning was documented and submitted for publication in the Canadian Journal of Radiology. The PC/12 is operated mainly by the treatment planning section. Some relevant statistics of this section for 1974 are: 1,300 localizations, 480 plans, 190 contours and 650 other procedures.

The Department of Nuclear Medicine experienced more than a 50% increase in workload to 1,450 scans during the year following the purchase of a Gamma Camera system. A whole body scanning table has recently been added to the camera system enabling the production of minified scans in a fraction of the time formerly required for a complete body study.

Members of the Department of Physics are actively engaged in the planning of major equipment and facility requirements for the new Calgary Cancer Centre. Of major importance in these considerations is the evaluation of high energy linear accelerators and therapy simulator systems.

RADIOTHERAPY DEPARTMENT

I. SCOTT BROWN, M.B., B.S., F.R.C.S.(E), F.R.C.R., D.M.R.T.
—Director
—Associate Professor, Faculty of Medicine, University of Calgary

J. M. BARNES, B.M., B.Ch., D.M.R.T.
—Senior Radiotherapist

A. G. ENNS, M.D., L.M.C.C.,
—Clinical Assistant

N. VANDER LUBBE, M.B., B.S., D.C.R.A.,
—Radiotherapist
—Lecturer, Faculty of Medicine, University of Calgary

The Department of Radiation Therapy in the Calgary Clinic provided an interesting volume of service for the population of southern Alberta in 1974. There was a 14% increase in the number of patients treated as compared to 1973 resulting in a 13% increase in the number of treatment sessions. These percentage increases are not entirely indicative of the increase in the workload as the treatment of head and neck cancer, Hodgkin's Disease, testicular tumors and prostatic carcinoma has become more radical and intensive, and as a result, more consuming of professional and technical time and equipment utilization. The Department is approaching the limit of its physical and equipment capabilties.

It is a distressing fact that, despite the ready availability of diagnostic and treatment facilities to the population and the increased emphasis on early diagnosis by various agencies through public education programs, the Clinic continues to see a large number of cases with advanced disease, particularly gynecological and breast cancers. It is even more distressing as these are two areas in which early diagnosis can readily be made.

Dr. Arthur Enns joined us in July of 1974 and provided a valuable service to the Clinic. He has now left the Calgary Clinic to join the staff of the W. W. Cross Cancer Institute to pursue his studies further.

The training program for radiotherapy technicians under the direction of Mrs. Fisher has been continued with members of the Radiotherapy and Medical Physics Departments contributing their services to the teaching program. All members of the radiotherapy staff have participated regularly at ward rounds in Calgary hospitals and those radiotherapists with a University of Calgary affiliation have participated in seminars involving medical students in the various city hospitals. Nursing students from the Holy Cross Hospital and the University of Calgary have attended the Clinic on a regular basis to receive instruction on the nursing aspects of radiation. Regular lectures by our staff have also been given to nursing students at the Foothills General Hospital.

LETHBRIDGE CANCER CLINIC

LETHBRIDGE CANCER CLINIC MEDICAL STAFF

Director - RICE, Dr. D.

AU, Dr. C.C. - Internist
BAINBOROUGH, Dr. A.R. - Pathologist
LACY, Dr. R.A. - Gynecologist
MCCUTCHEON, Dr. J.D. - Surgeon

MEDICAL DIRECTOR'S REPORT

The year 1974 saw a considerable increase in the number of new malignancies registered at the Lethbridge Cancer Clinic; some 457 as compared to 340 in 1973. This is partially attributed to chance and to an increase in the population at risk. The largest single difference is in the area of gastro-intestinal malignancies - 49 in 1973 and 85 in 1974, with an actual doubling of new gastric cancers from 9 to 18.

There was also a considerable increase in the use of chemotherapy - 269 patients in 1974 as compared to 221 patients in 1973. We feel that this is due to the greater effectiveness of these modalities and their increased acceptance by the profession and the public.

A review of ovarian malignancies was undertaken by Dr. R.A. Lacy which showed a 33% five-year survival.

ACTIVITY STATISTICS

	1972	1973	1974
New patients examined (Including patients with benign disease)	349	338	338
Review patients	2,069	2,348	2,447

FINANCIAL STATEMENTS

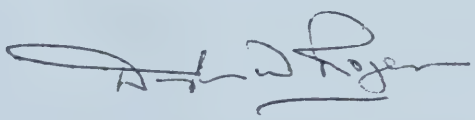
Alberta

AUDITOR'S REPORT

To the Members of the Provincial
Cancer Hospitals Board

I have examined the balance sheet of the Provincial Cancer Hospitals as at December 31, 1974 and the statements of revenue surplus (deficit), capital surplus and revenue and expenditure for the year then ended. My examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as I considered necessary in the circumstances.

In my opinion these financial statements present fairly the financial position of the Hospitals as at December 31, 1974 and the results of its operations for the year then ended, in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.



C.A.
Provincial Auditor.

Edmonton, Alberta
March 19, 1975

PROVINCIAL CANCER HOSPITALS

BALANCE SHEET

AS AT DECEMBER 31, 1974

(with comparative figures)

Statement A

ASSETS

	1974	1973
Current:		
Cash	$ 309,063	$ 214,849
Short term deposits	700,000	500,000
Investment, Canada Savings Bonds	-	50,000
Accounts receivable (Note 2)	141,236	168,604
Inventories, at cost	152,952	120,241
Accrued interest	1,945	3,360
Prepaid expenses	3,078	-
Due from trust funds	17,023	1,542
	1,325,297	1,058,596
Deferred charge	-	6,000
Capital:		
Buildings and improvements, at cost (Note 3)	7,432	7,432
Furniture and equipment, at cost (Note 4)	2,563,976	2,246,977
	2,571,408	2,254,409
Trust:		
Cash	63,187	64,011
Short term deposits	273,000	128,000
Accounts receivable	2,027	1,165
Accrued interest	4,231	1,207
Equipment, at cost	1,492	1,492
	343,937	195,875
	$4,240,642	$3,514,880

LIABILITIES

	1974	1973
Current:		
Accounts payable	$ 298,759	$ 193,210
Province of Alberta, working capital advance	451,000	451,000
Deferred income (Note 5)	462,764	362,055
	1,212,523	1,006,265
Revenue surplus (deficit), Statement B	112,774	(129,315)
Capital:		
Capital surplus, Statement C	2,571,408	2,254,409
Reserve for capital purposes (Note 6)	-	187,646
	2,571,408	2,442,055
Trust:		
Accounts payable	233	233
Medical fees	24,359	24,962
Endowment and special purposes funds	302,322	169,138
Due to operating fund	17,023	1,542
	343,937	195,875
	$4,240,642	$3,514,880

The accompanying notes are part of these financial statements.

Statement B

PROVINCIAL CANCER HOSPITALS
STATEMENT OF REVENUE SURPLUS (DEFICIT)
FOR THE YEAR ENDED DECEMBER 31, 1974
(with comparative figures)

	1974	1973
Balance at beginning of year	$(129,315)	$ 35,741
Add: Surplus (deficit) for the year	74,432	(216,390)
Transfer from reserve for capital purposes	187,646	-
Proceeds from sale of fixed assets	586	51,338
	133,349	(129,311)
Deduct: Refund to Alberta Hospital Services Commission with respect to overpayment of basic operating payment of previous year, net	14,527	-
Previous year's adjustment, net	6,048	4
	20,575	4
Balance at end of year	$ 112,774	$(129,315)

Statement C

PROVINCIAL CANCER HOSPITALS
STATEMENT OF CAPITAL SURPLUS
FOR THE YEAR ENDED DECEMBER 31, 1974
(with comparative figures)

	1974	1973
Balance at beginning of year	$2,254,409	$1,976,480
Add: Assets provided from Hospitalization Benefits Plan	319,572	355,477
	2,573,981	2,331,957
Deduct: Disposal of assets	2,573	52,803
Prior year's adjustment	-	24,745
	2,573	77,548
Balance at end of year	$2,571,408	$2,254,409

PROVINCIAL CANCER HOSPITALS

STATEMENT OF REVENUE AND EXPENDITURE

FOR THE YEAR ENDED DECEMBER 31, 1974

(with comparative figures)

	1974	1973
REVENUE		
Contributions under the Hospitalization Benefits Plan:		
Organized out-patient	$3,676,475	$2,990,342
Basic operating payments	1,640,617	1,334,597
Equipment and renovations	318,986	79,504
Special payments	2,000	3,625
	5,638,078	4,408,068
General services	101,436	100,836
Special services and service departments	94,074	82,078
Interest income	41,922	46,664
Miscellaneous	31,335	41,507
	5,906,845	4,679,153
EXPENDITURE		
Salaries, wages and fees	3,949,005	3,381,358
Supplies and direct expenses	1,563,836	1,158,708
Equipment and renovations	319,572	355,477
	5,832,413	4,895,543
Surplus (deficit) for the year	$ 74,432	$ (216,390)

PROVINCIAL CANCER HOSPITALS

NOTES TO THE FINANCIAL STATEMENTS

DECEMBER 31, 1974

Note 1 Authority

The Provincial Cancer Hospitals are operated under the authority of The Cancer Treatment and Prevention Act, Chapter 38, Revised Stautes of Alberta 1970.

Note 2 Accounts Receivable

Accounts receivable consist of the following:

	1974	1973
Hospitalization Benefits Plan	$ 98,308	$123,151
Patients, less allowance for doubtful accounts	25,272	28,167
Miscellaneous	17,656	17,286
	$141,236	$168,604

Note 3 Buildings

The premises occupied by the Dr. W.W. Cross Cancer Institute in Edmonton were constructed by the Department of Public Works and are not reflected in the Balance Sheet.

Note 4 Depreciation

No depreciation has been provided for furniture and equipment. The Hospitalization Benefits Plan provides funds for the acquirement and replacement of furniture and equipment.

Note 5 Deferred Income

Deferred income is comprised of the pro-rata budget payments received in December, 1974 in the amount of $462,764 applicable to January, 1975.

Note 6 Reserve for Capital Purposes

This reserve was transferred to revenue surplus during the year, as authorized by Board minute of April 18, 1974.

Note 7 Restatement of 1973 Figures

An accounts receivable in the amount of $84,287, representing organized out-patient revenue which was not recorded in 1973, was restated in the financial statements resulting in a decrease in the deficit for 1973 from $300,677 to $216,390.

For comparative purposes other 1973 figures have been restated where necessary to conform to 1974 presentation.

DONATIONS AND BEQUESTS

1974

ENDOWMENT FUND

A.C.W. St. Faith's Evening Branch	$ 50
A.C.T. Edmonettes	50
Mr. J. David Anderson	25
Bay Staff (Southgate)	50
Miss D. Beckwith	25
Mrs. A. Bilou	100
Bond & Leitch Ltd.	50
Mrs. D. Botham	25
Busy Bee Lodge #79	50
Mr. Ian Cameron	200
Canadian Indemnity Company	25
C.N.R. Complex and Depot	61
Mr. & Mrs. F. Connie	50
Dr. Cook Nursing Home	32
Mr. & Mrs. M. Cor	50
Mr. & Mrs. S. Cor	40
Dr. & Mrs. R. Cormack	25
Mr. John Coyne	25
Mr. J.A. Deibert	100
Mrs. Mary Dinsmore	46
Mr. J. Donaldson	32
Dr. & Mrs. R. Elofson	60
Employees of Eldorado Nuclear	730
#10 Field Technical Training	51
Mr. M.M. Finkbiner	2,000
Dr. Donald Flock	50
Mr. & Mrs. W.J. Fraser	35
Mr. Clyde Gault	100
James Gibbons School Staff	25
Mr. J. Hofer	25
Mr. Jack Hogge	50
Mr. & Mrs. F. Hull	25
Keomi Club	50
Mr. Meno Lake	25
Mr. A. Lechelt	500
Mrs. J. Liknaitzky	100
Mr. Thomas H. Lindop	100
Misses Luffman, Lilly & friends Christmas Carol Collection	78
Mr. & Mrs. D. McCulloch	25
Mr. & Mrs. J. McLean	100
Mrs. R.S. McLean	25
Norlight Figure Skating Club	25
Order of the Royal Purple	300
Mr. Ernest G. Pears	213
Mr. Albert Petherbridge	60
Mrs. Catherine Petherbridge	60
Mr. & Mrs. T. Perron	40
Mr. Dan Romanchuk	152
Mrs. Helen Romanchuk	35
Mrs. Jennie Rose	25
Mr. William Schwartz	50
William Schwartz Construction	25

ENDOWMENT FUND (Cont'd)

Southgate Shopping Centre	192
Mr. & Mrs. J. Stewart	50
Stewart, Smith (Canada) Limited	25
Mr. & Mrs. J. Swanson	30
Tenants of Smiley Court	36
Mr. &. Mrs. K. Tibbetts	25
Mrs. Mary Tomashowsky	500
University of Ottawa	100
W.W. Cross Ladies Auxiliary	200
War Amputations of Canada	250
Mrs. M. Westerguard	50
Miss Eva M. Wilson	100
Donations under $25.00 each	3,371
	$ 11,179

RESEARCH FUND

Dr. B. Chernick	$ 25
Gloge Heating & Plumbing Ltd.	500
Mrs. Joan Peterson	25
Princess Alice of Kent Chapter, I.O.D.E.	50
Mr. N. Radze	25
Southside Athletic Club	50
Edmonton Police Benevolent Society	9,000
P.C.H.B. Endowment Fund	6,574
Donations under $25.00 each	449
	$ 16,698

RESEARCH GRANTS

Canadian Cancer Society (Alberta Division)	$ 8,000
Department of National Health & Welfare	52,301
Government of the Province of Alberta	15,000
National Cancer Institute of Canada	35,937
Mrs. F. Shaw - Dr. Merv Laskin Research Fund	100,000
	$211,238

PRESENTATIONS AND PUBLICATIONS

Alberta

BROWN, L.B.: Chemotherapy of Ovarian Cancer - The Experience of the Departmental Chemotherapy Team. Presented at Scientific Program of the Dominion Obstetrical and Gynecological Society, Edmonton, Alberta.

BURNS, P.E.: Early Carcinoma of the Breast - the Radiotherapist's Dilemma. Presented at Canadian Association of Radiologists Annual Meeting, Vancouver British Columbia.

DIERICH, H.C.: Scanning with 67 Gallium Citrate. Presented at Annual Meeting of the Prairie Chapter of the Society of Nuclear Medicine, Calgary, Alberta.

GLAZEBROOK, G.A.: Radiotherapy - Carcinoma of the Bladder. Presented at St. Joseph Hospital, Milwaukee, Wisconsin.

GRACE, M.: Evaluation of Local Public Relations and Communications Programs. Presented at Alberta Teachers Association Annual Meeting, Banff, Alberta.

GRACE, M.: Follow-up of Patients with Cancer. Presented at XI International Cancer Congress, Florence, Italy.

KAPUSCINSKI, K.: A Multi-format Display System. Presented at Annual Meeting of the Prairie Chapter of the Society of Nuclear Medicine, Calgary, Alberta.

LENTLE, B.C.: Oncological Nuclear Medicine. Presented at Annual Meeting of the Ontario Medical Association, Toronto, Ontario.

LENTLE, B.C., DIERICH, H.C., MCGOWAN, D.G.: Bone Scanning in Carcinoma of the Prostate. Presented at Canadian Association of Radiologist Annual Meeting, Vancouver, British Columbia.

LENTLE, B.C.:
- 67Ga Citrate in the Search for Primary Malignancy.
- Chronic Osteomyelitis with Soft Tissue Extension; Scintiscan Diagnosis.
- Tumor Scanning - A Review.

Presented at Annual Meeting of the Prairie Chapter of the Society of Nuclear Medicine, Calgary, Alberta.

MCCARTEN, A.B.: Tumor Thickness and Lymphocytic Infiltration in Malignant Melanoma of the Head and Neck. Presented at Twentieth Annual Meeting of the Society of Head and Neck Surgeons, Honolulu.

MCGOWAN, D.G.: Wilms Tumour - A Twenty-year Total Population Study. Presented at XI International Cancer Congress Meeting, Florence, Italy.

MCPHERSON, T.A.: Radiolabelled Anti-CEA Binding for Human Colon Cancer and Normal Colon Tissue in Vitro. Presented At Canadian Society for Clinical Investigation, Montreal, Quebec.

MCPHERSON, T.A.: Lymphocyte-Myelin Basic Protein Binding: Inhibition with MS Serum. Presented at Northwest Society for Clinical Research, Vancouver, British Columbia.

MCPHERSON, T.A.: Inhibition of Binding ^{125}1-Encephalitogenic Basic Protein to Normal Lymphocytes by Multiple Sclerosis Serum: Correlation with Diagnosis & Status of Multiple Sclerosis Patients. Presented at Royal Australasian College of Physicians, Singapore.

MCPHERSON, T.A.: A Bird's Eye View from a Hall Institute Metastasis. Presented at The Walter and Eliza Hall Institute of Medical Research, Melbourne, Australia.

MCPHERSON, T.A.: MS Think Tank. Participant in Immunology and Virology Session, Chateau Montebello, Quebec.

MCPHERSON, T.A.: Lymphocyte-myelin Basic Protein Binding; Inhibition with MS Serum. Presented at Canadian Federation of Biological Sciences Meeting, Hamilton, Ontario.

MCPHERSON, T.A.: Alph-globulin Affecting the Immune Response. Participant in Workshop 134 - Second International Congress of Immunology, Brighton, England.

MCPHERSON, T.A.: Newer Concepts in Multiple Sclerosis. Presented at Spinal Fluid Immunology Workshop of the American Society of Clinical Pathologists Annual Meeting, Washington, D.C.

PEARSON, J.G.: Carcinoma of the Oesophagus - Operation or Radiation? Presented at Symposium on Place of Surgery and Radiotherapy in the Management of Breast, Thyroid, Oesophageal and Bone Cancer, 91st Annual Meeting of the German Surgical Association in Munich.

PEARSON, J.G.: Radiotherapy in Oesophageal Carcinoma. Presented at Austin Wheatley Symposium "The Oesophagus", Brook General Hospital, London, England.

LENTLE, B.C.: Investigation of Sacro-iliac Disease: Comparative Evaluation of Radiological and Radionuclide Techniques. Presented at VI Pan American Congress on Rheumatic Diseases, Toronto, Ontario.

URTASUN, R.C.: 1. Treatment of High Grade Supratentorial Tumors; 2. Studies of X-Radiation Damage and Repair in Animal Tumor Systems. Presented at Canadian Association of Radiologists Annual Meeting in Vancouver.

URTASUN, R.C.: Use of Radiosensitizers in Clinical Trials. Presented at Whiteshell Nuclear Research Establishment at Pinawa, Manitoba.

URTASUN, R.C.: Radiotherapy and CCNU in Grade III and IV Astrocytomas. Presented at American Society Clinical Oncologists Meeting.

URTASUN, R.C.: Further Pharmacological Studies on High Dose Metronidazole. Presented at Fifth International Congress Radiation Research Meeting in Seattle, Washington.

URTASUN, R.C.: Tissue Culture Studies and Radiation Effect in the Human Osteogenic Sarcoma. Presented at the West Coast Cancer Foundation Meeting in San Francisco, California.

PUBLICATIONS OF THE PROFESSIONAL STAFF

AKABUTU, J.J., CALVERT, C.: Spontaneous Chemotactic Activity of Sera from Patients with Cystic Fibrosis. Published in Western Society for Pediatric Research.

BURNS, P., GRACE, M. (Edited by Lucio Severi): Incidence of Multiple Malignancies in Northern Alberta, 1962-71, and Suggested Improvements in Data Collection for Future Review. Published in Multiple Primary Malignant Tumors - Proceedings of the V Perugia Quadrennial International Conference on Cancer, 99-111.

BURNS, P.E., LAU, E.: Treatment of Early Breast Carcinoma in Northern Alberta - A Follow-up Study. Published in Canadian Medical Association Journal, 110, 1131.

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ALBERTA CANCER STATISTICS — 1974

Alberta

RESEARCH AND DEVELOPMENT DEPARTMENT

M. GRACE, Ph.D.,
- —Director
- —Associate Professor, Faculty of Medicine, University of Alberta
- —Consultant, R.S. McLaughlin Examination and Research Centre.

In 1974, the Department received a grant from the Department of Health and Welfare in order to design and evaluate a co-ordinated cancer data system. Eight staff members have been employed in order to complete the task of fully developing the Cancer Data Centre and patient follow-up system.

The arrangements completed in 1974 with the Alberta Medical Association, the Alberta Health Care Insurance Commission and the government have established cancer as a registerable disease in Alberta. The Department developed new techniques in 1974 for the efficient processing of the data generated through the new registration system. The possibility of creating an accurate profile of cancer in Alberta is now in sight; an undertaking which will be of major benefit to physicians, epidemiologists and the public at large.

The Research and Development group continue to provide statistical services for physicians and scientists within the Alberta Faculties of Medicine; while most of these studies are concerned with malignant disease, the Department has participated in other projects encompassing neurologic, cardio-vascular and renal disorders.

At the request of the National Cancer Institute, a training manual for cancer registry personnel was produced. Sections of this manual were written in the Department of Research and Development and will be tested in June 1975.

Our aims for 1975 are:
- —design and implementation of various follow-up aspects of the registry
- —consolidation of the registry and evaluation
- —expanding provincial research projects.

In the past year the individual departments in Calgary and Edmonton have been striving to standardize their reporting criteria and data collection methods. This has become necessary for numerous reasons, e.g. comparisons and substantiations for budget purposes. A lot of effort has been put into this standardization by all concerned, but at the same time errors and discrepancies have been turned up. It is for this reason that the figures for some departments differ from previously reported figures (e.g. 1974 quarterly reports).

NOTES ON THE 1974 ANNUAL REPORT

1. Cases developing a second malignancy

1974 figures show a decline of 14.2% from the 1973 figure of 316. At first glance this would represent a rather surprising change in trend from the 29.5% increase noted in 1973. However, on further examination of the trend in numbers of second malignancies since 1970, the figure of 271 for 1974 would fit the roughly linear progression. It is more likely that the figure of 316 cases for 1973 represents a random variation in the number of second malignancies due to unknown causes.

In general, the number of second malignancies in Alberta is apparently somewhat less than other areas. This observation is probably due to a statistical artifact, rather than some environmental factor. Alberta's population is considerably younger than most other areas and therefore, the second malignancies are less likely. Also, Alberta's older population is highly mobile, to areas with favorable climatic conditions.

2. Pathology and Autopsy Report

There is a marked decrease in the number of non-registered malignant cases. This is due to the pathology registration which is now requested of physicians.

3. Reported by Vital Statistics

In this category there is an increase of 33.9%. This is due to a much closer working relationship with Vital Statistics.

SOURCES OF INFORMATION

	1973 NUMBER	1974 NUMBER	1973 % of TOTAL	1974 % of TOTAL
New Registration	4839	5311	84.5	87.2
Pathology Reports Only	552	327	9.6	5.4
Vital Statistics Only	336	450	5.9	7.4
TOTALS	5727	6088	100.0	100.0

MALIGNANT CASES

	1970	% Change (+ increase) (- decrease)	1971	% Change (+ increase) (- decrease)	1972	% Change (+ increase) (- decrease)	1973	% Change (+ increase) (- decrease)	1974
New malignant cases referred to Clinics	3833	6.8	4093	3.8	4247	6.5	4523	+11.4	5040
Cases who developed a second malignancy	251	-15.1	213	14.5	244	29.5	316	-14.2	271
Total new malignancies	4084	5.5	4306		4491	7.8	4839	+9.8	5311
Non-registered malignant cases by									
Pathology and autopsy report	594	-3.2	575	-19.5	463	19.2	552	-40.8	327
Reported by Vital Statistics	252	6.7	269	20.4	324	3.7	336	+33.9	450
Total non-registered malignant cases	846	N/A	844	-6.7	787	12.8	888	-12.5	777
Total number of new malignant cases discovered in Alberta	4930	4.5	5150	2.5	5278	8.5	5727	6.3	6088
Cases treated elsewhere reporting to clinics	239	12.1	268	14.5	307	18.6	364		

POPULATION DATA - (IN THOUSANDS)

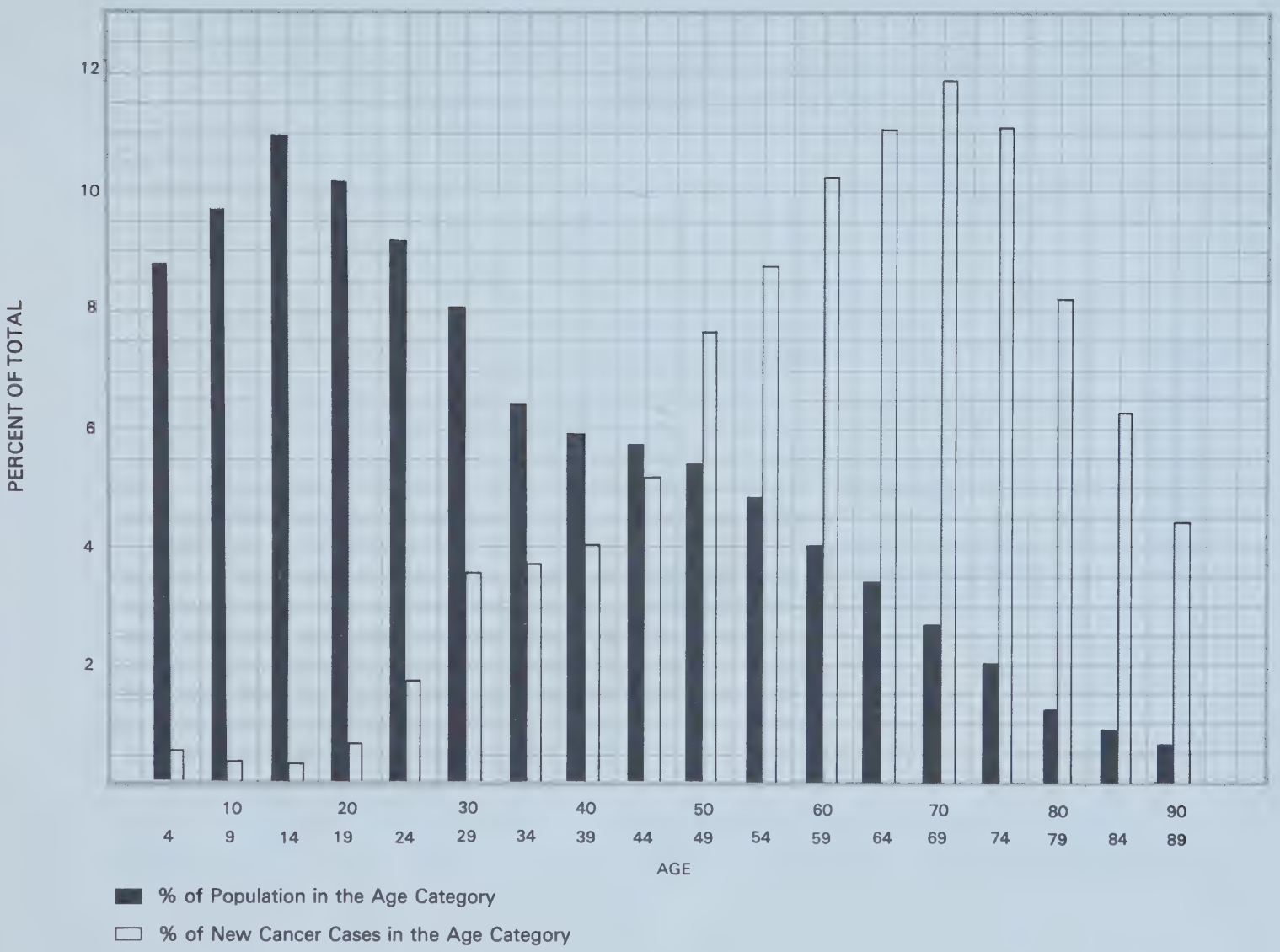
AGE	MALE	FEMALE	TOTAL	% of TOTAL
0 - 4	76.8	72.6	149.4	8.7
5 - 9	83.6	80.3	163.9	9.6
10 - 14	95.1	91.0	186.1	10.9
15 - 19	90.5	86.0	176.5	10.3
20 - 24	79.1	78.2	157.3	9.2
25 - 29	68.5	69.0	137.5	8.0
30 - 34	57.0	55.3	112.3	6.6
35 - 39	51.0	48.1	99.1	5.8
40 - 44	51.3	46.5	97.8	5.7
45 - 49	47.6	45.0	92.6	5.4
50 - 54	40.8	41.1	81.9	4.8
55 - 59	34.6	34.6	69.2	4.0
60 - 64	29.1	29.0	58.1	3.4
65 - 69	22.9	22.3	45.2	2.6
70 - 74	17.2	17.0	34.2	2.0
75 - 79	10.7	12.0	22.7	1.3
80 - 84	6.9	8.0	14.9	0.9
85 - 89	3.7	4.4	8.1	0.5
90+	1.4	1.9	3.3	0.2
TOTAL	867.8	842.3	1710.1	99.9

AGE DISTRIBUTIONS OF INITIAL MALIGNANT REGISTRATIONS IN ALBERTA 1974

		MALE		FEMALE		TOTALS	
Age Group	% of Population	No.	% of Total Male Cancers	No.	% of Total Female Cancers	No.	% of All Cancers
0 - 4	8.7	14	0.6	13	0.5	27	0.5
5 - 9	9.6	9	0.4	3	0.1	12	0.2
10 - 14	10.9	4	0.2	8	0.3	12	0.2
15 - 19	10.3	18	0.7	17	0.7	35	0.7
20 - 24	9.2	30	1.2	56	2.2	86	1.7
25 - 29	8.0	36	1.5	138	5.4	174	3.5
30 - 34	6.6	42	1.7	142	5.5	184	3.7
35 - 39	5.8	58	2.4	139	5.4	197	3.9
40 - 44	5.7	86	3.5	173	6.7	259	5.2
45 - 49	5.4	140	5.7	241	9.4	381	7.6
50 - 54	4.8	179	7.3	260	10.1	439	8.7
55 - 59	4.0	241	9.8	268	10.4	509	10.1
60 - 64	3.4	296	12.0	255	9.9	551	11.0
65 - 69	2.6	367	14.9	232	9.0	599	11.9
70 - 74	2.0	345	14.0	238	9.3	583	11.6
75 - 79	1.3	258	10.5	159	6.2	417	8.3
80 - 84	0.9	199	8.1	119	4.6	318	6.3
85 - 89	0.5	99	4.0	64	2.5	163	3.2
90+	0.2	37	1.5	44	1.7	81	1.6
TOTAL		2458		2569		*5027	

*Age unavailable on 13 cases.

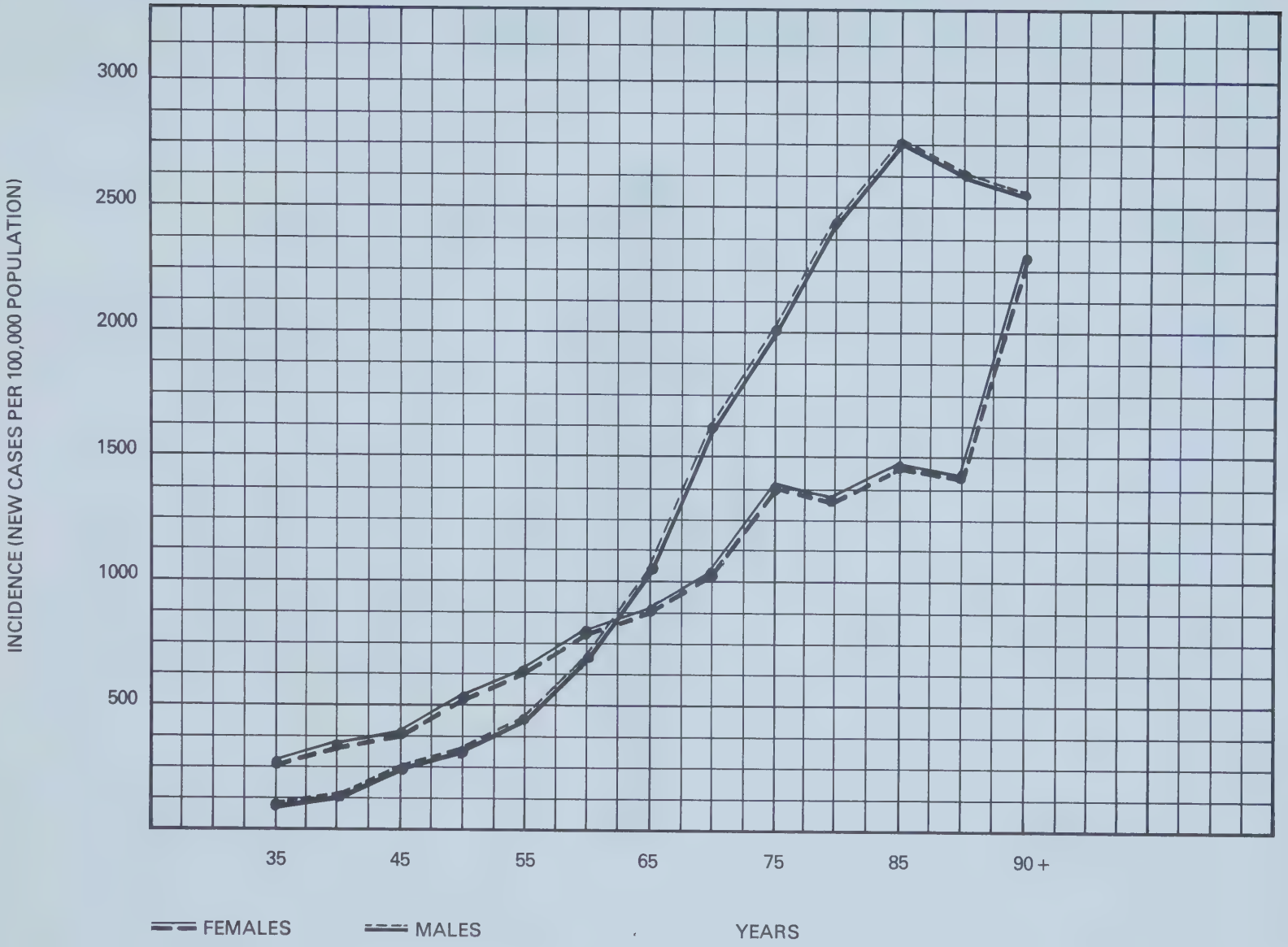
DISTRIBUTION OF POPULATION AND NEW CANCER CASES BY AGE



COMPARISON OF MALE AND FEMALE INCIDENCE, 1974
TOTAL INCIDENCE/100,000

AGE GROUP	MALES	FEMALES	RATIO M/F
0 - 4	18.2	17.9	1.0
5 - 9	10.8	3.7	2.9
10 - 14	4.2	8.8	0.5
15 - 19	19.9	19.8	1.0
20 - 24	37.9	71.6	0.5
25 - 29	52.6	200.0	0.3
30 - 34	73.7	256.8	0.3
35 - 39	113.7	289.0	0.4
40 - 44	167.6	372.0	0.5
45 - 49	294.1	535.6	0.5
50 - 54	438.7	632.6	0.7
55 - 59	696.5	774.6	0.9
60 - 64	1017.2	879.3	1.2
65 - 69	1602.6	1040.4	1.5
70 - 74	2005.8	1400.0	1.4
75 - 79	2411.2	1325.0	1.8
80 - 84	2884.1	1487.5	1.9
85 - 89	2675.7	1454.5	1.8
90 +	2642.9	2315.8	1.1

AGE SPECIFIC INCIDENCE RATES (REGISTERED CASES, 1974)



Relative Frequency of Registered Cancer Cases

Alberta 1974

Male	%	Female	%
SKIN	23.5	SKIN	17.9
ORAL	6.1	ORAL	1.5
RESPIRATORY	13.2	RESPIRATORY	2.9
BREAST	< 0.1	BREAST	23.4
RECTUM	3.7	RECTUM	2.7
OTHER DIGEST	14.5	OTHER DIGEST	9.7
GENITAL	16.0	URINARY	2.5
URINARY	7.5	FEM. ORGANS	27.6
LYMPHATIC & HEMATOPOIETIC	7.2	LYMPHATIC & HEMATOPOIETIC	5.7
ALL OTHERS	8.0	ALL OTHERS	6.2

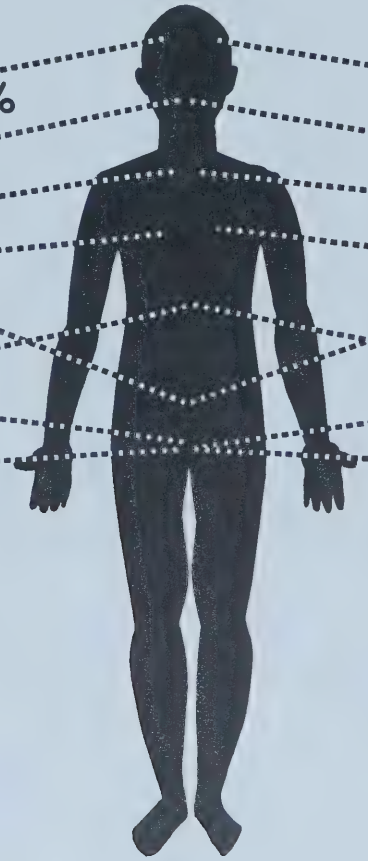


TABLE I
NEW REGISTRATIONS BY AGE AND SEX

		0 - 34		35 - 44		45 - 54		55 - 64		65 - 74		75 - 84		85+		Total	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
HEAD AND NECK	Buccal cavity, Pharynx	3	3	13	2	30	6	42	8	43	10	13	5	5	5	149	39
GASTRO-INTESTINAL	Oesophagus	0	0	0	2	3	0	11	2	3	3	10	0	0	3	27	10
	Stomach	3	0	6	4	9	6	17	8	39	12	19	11	4	1	97	42
	Small Intestine	0	0	0	1	0	2	1	4	0	2	0	0	0	0	1	9
	Large Intestine (excluding Rectum)	6	5	8	10	22	20	26	35	59	42	34	19	7	9	162	140
	Rectum, Recto-Sigmoid Junction	1	3	5	6	12	12	19	14	30	22	17	12	8	0	92	69
	Pancreas	0	1	3	1	4	8	18	6	21	16	11	3	1	2	58	37
	Gall Bladder	0	0	0	0	2	2	2	0	3	7	5	1	0	1	12	11
RESPIRATORY TRACT	Larynx	0	0	0	0	13	0	8	2	8	1	6	3	2	0	37	6
	Trachea, Bronchus, Lung	7	2	10	6	40	15	82	26	97	13	38	5	14	1	288	68
BRAIN AND CENTRAL NERVOUS SYSTEM	Brain & Nervous System	21	13	5	3	7	6	14	4	11	5	1	1	0	0	59	32
BONE & CONNECTIVE TISSUE	Bone, Connective Tissue	12	7	4	2	6	1	1	3	7	3	2	1	0	0	32	17
SKIN	Skin including Melanoma	13	20	38	44	102	92	138	81	140	98	109	75	38	49	578	459
BREAST	Breast	0	23	0	75	0	168	0	156	3	105	1	58	0	17	4	602
MALE GENITAL	Prostate	0		2		6		48		140		116		39		351	
	Testis	26		9		3		1		2		2		0		43	
FEMALE GENITAL	Cervix Invasive		12		17		16		14		9		6		0		74
	Cervix In-situ		206		96		35		13		9		0		0		359
	Uterus		4		5		45		64		29		12		6		165
	Ovary, Fallopian Tube		8		13		18		22		17		7		4		89
	Other Female Organs		2		1		7		2		2		7		0		21
URINARY TRACT	Bladder	5	0	6	0	16	6	29	5	42	13	31	8	9	3	138	35
	Kidney	4	1	3	2	9	5	14	9	8	8	8	3	1	1	47	29
THYROID	Thyroid	1	14	3	2	0	7	0	3	1	8	0	0	1	1	6	35
LYMPHATIC & HAEMATOPOIETIC TISSUE	Hodgkin's	15	24	2	1	2	1	4	1	5	0	1	0	0	0	29	27
	Non-Hodgkin's Lymphoma	9	3	8	7	5	4	16	14	10	6	4	9	2	2	54	45
	Multiple Myeloma	0	0	3	0	4	0	5	5	5	9	10	5	0	0	27	19
	Leukemia: Acute Myeloid	6	8	0	0	0	0	0	0	1	1	0	0	0	0	7	9
	Chronic Lymphatic	1	0	2	0	4	1	3	3	4	4	4	7	1	0	19	15
	Acute Myeloid	8	6	3	4	3	4	4	1	5	3	1	2	0	0	24	20
	Chronic Myeloid	3	3	2	3	3	1	1	1	3	0	0	0	0	0	12	8
	Other	2	2	1	0	0	0	2	1	0	0	1	0	0	0	6	3
	Other Primary Sites	4	5	3	2	7	4	16	6	8	6	3	4	2	0	43	27
	Primary Site Unknown	3	2	5	3	7	9	15	10	14	7	10	14	2	3	56	48

TABLE II
INCIDENCE RATES BY AGE AND SEX
(New Registrations per 100,000 population)

		0 - 34		35 - 44		45 - 54		55 - 64		65 - 74		75 - 84		85+		Total	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
HEAD AND NECK	Buccal cavity, Pharynx	0.5	0.6	12.7	2.1	33.9	7.0	65.9	12.6	107.2	25.4	73.9	25.0	98.0	79.4	17.2	4.6
GASTRO-INTESTINAL	Oesophagus	0	0	0	2.1	3.4	0	17.3	3.1	7.5	7.6	56.8	0	0	47.6	3.1	1.2
	Stomach	0.5	0	5.9	4.2	10.2	7.0	26.7	12.6	97.3	30.5	108.0	55.0	78.4	15.9	11.2	5.0
	Small Intestine	0	0	0	1.1	0	2.3	1.6	6.3	0	5.1	0	0	0	0	0.1	1.1
	Large Intestine (excluding Rectum)	1.1	0.9	7.8	10.6	24.9	23.2	40.8	55.0	147.1	106.9	193.2	95.0	137.3	142.9	18.7	16.6
	Rectum, Recto-Sigmoid Junction	0.2	0.6	4.9	6.3	13.6	13.9	29.8	22.0	74.8	56.0	96.6	60.0	156.9	0	10.6	8.2
	Pancreas	0	0.2	2.9	1.1	4.5	9.3	28.3	9.4	52.4	40.7	62.5	15.0	19.6	31.7	6.7	4.4
	Gall Bladder	0	0	0	0	2.3	2.3	3.1	0	7.5	17.8	28.4	5.0	0	15.9	1.4	1.3
RESPIRATORY TRACT	Larynx	0	0	0	0	14.7	0	12.6	3.1	20.0	2.5	34.1	15.0	39.2	0	4.3	0.7
	Trachea, Bronchus, Lung	1.3	0.4	9.8	6.3	45.2	17.4	128.7	40.9	241.9	33.1	215.9	25.0	274.5	15.9	33.2	8.1
BRAIN & CENTRAL NERVOUS SYSTEM	Brain & Nervous System	3.8	2.4	4.9	3.2	7.9	7.0	22.0	6.3	27.4	12.7	5.7	5.0	0	0	6.8	3.8
BONE & CONNECTIVE TISSUE	Bone, Connective Tissue	2.2	1.3	3.9	2.1	6.8	1.2	1.6	4.7	17.5	7.6	11.4	5.0	0	0	3.7	2.0
SKIN	Skin including Melanoma	2.4	3.8	37.1	46.5	115.4	106.9	216.6	127.4	349.1	249.4	619.3	375.0	745.1	777.8	66.6	54.5
BREAST	Breast	0	4.3	0	79.3	0	195.1	0	245.3	7.5	267.1	5.7	290.0	0	269.8	0.5	71.5
MALE GENITAL	Prostate	0		2.0		6.8		75.4		349.1		659.1		764.7		40.4	
	Testis	4.7		8.8		3.4		1.6		5.0		11.4		0		5.0	
FEMALE GENITAL	Cervix Invasive		2.3		18.0		18.6		22.0		22.9		30.0		0		8.8
	Cervix In-situ		38.7		101.5		40.7		20.4		22.9		0		0		42.6
	Uterus		0.8		5.3		52.3		100.6		73.8		60.0		95.2		19.6
	Ovary, Fallopian Tube		1.5		13.7		20.9		34.6		43.3		35.0		63.5		10.6
	Other Female Organs		0.4		1.1		8.1		3.1		5.1		35.0		0		2.5
URINARY TRACT	Bladder	0.9	0	5.9	0	18.1	7.0	45.5	7.9	104.7	33.1	176.1	40.0	176.5	47.6	15.9	4.2
	Kidney	0.7	0.2	2.9	2.1	10.2	5.8	22.0	14.2	20.0	20.4	45.5	15.0	19.6	15.9	5.4	3.4
THYROID	Thyroid	0.2	2.6	2.9	2.1	0	8.1	0	4.7	2.5	20.4	0	0	19.6	15.9	0.7	4.2
LYMPHATIC & HAEMATOPOIETIC TISSUE	Hodgkin's	2.7	4.5	2.0	1.1	2.3	1.2	6.3	1.6	12.5	0	5.7	0	0	0	3.8	3.2
	Non-Hodgkin's Lymphoma	1.6	0.6	7.8	7.4	5.7	4.6	25.1	22.0	24.9	15.3	22.7	45.0	39.2	31.7	6.2	5.3
	Multiple Myeloma	0	0	2.9	0	4.5	0	7.8	7.9	12.5	22.9	56.8	25.0	0	0	3.1	2.3
	Leukemia: Acute Lymphatic	1.1	1.5	0	0	0	0	0	0	2.5	2.5	0	0	0	0	0.8	1.1
	Chronic Lymphatic	0.2	0	2.0	0	4.5	1.2	4.7	4.7	10.0	10.2	22.7	35.0	19.6	0	2.2	1.8
	Acute Myeloid	1.5	1.1	2.9	4.2	3.4	4.6	6.3	1.6	12.5	7.6	5.7	10.0	0	0	2.8	2.4
	Chronic Myeloid	0.5	0.6	2.0	3.2	3.4	1.2	1.6	1.6	7.5	0	0	0	0	0	1.4	0.9
	Other	0.4	0.4	1.0	0	0	0	3.1	1.6	0	0	5.7	0	0	0	0.7	0.4
	Other Primary Sites	0.7	1.0	2.9	2.1	7.9	4.6	25.1	9.4	20.0	15.3	17.0	20.0	39.2	0	5.0	3.2
	Primary Site Unknown	0.5	0.4	4.9	3.2	7.9	10.5	23.5	15.7	34.9	17.8	56.8	70.0	39.2	47.6	6.5	5.7

INCIDENCE RATES — ALL SITES
ALL REPORTED CASES 1962 - 1974

YEAR	RATE/100,000POPULATION	YEAR	RATE/100,000 POPULATION
1962	240.7	1968	320.5
1963	258.9	1969	298.1
1964	268.5	1970	308.1
1965	270.4	1971	316.4
1966	293.3	1972	312.4
1967	304.6	1973	340.5
		1974	356.0

The increase in incidence rates between 1972 and 1973 is mainly due to an improvement in reporting from Vital Statistics and to better co-operation from the medical profession as a whole.

INCIDENCE NEW CASES per 100,000